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THE PLYMOUTH ROCKS

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"RINGLET" BARRED PLYMOUTH ROCKS

Winners of the \$100.00 Champion Challenge Trophy and American Plymouth Rock Club National Sweepstakes Cup for the best Cock, Cockerel, Hen and Pullet at Madison Square Garden, New York. Bred, owned and exhibited by E. B. Thompson, Amenia, N. Y.

STANDARD-BRED

PLYMOUTH ROCKS

Barred, White, Buff, Silver Penciled,
Partridge and Columbian

THEIR PRACTICAL QUALITIES; STANDARD REQUIREMENTS; HOW TO JUDGE
THEM; HOW TO MATE AND BREED FOR BEST RESULTS

WILLIAM C. DENNY, Editor

Contributed to by the Best Known and Most Expert Breeders in America

FULLY ILLUSTRATED

Text and Illustrations are Based on the Requirements of the 1910 Edition of
The American Standard of Perfection

PRICE, ONE DOLLAR

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1911

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INTRODUCTION



HIS BREED BOOK, devoted to the Plymouth Rocks, is the sixth edition of one of the most popular books on poultry ever printed. Realizing the wonderful improvement made in Standard Plymouth Rocks since the last edition was printed in 1906, the publishers deemed it advisable and necessary to produce an entirely new and greatly enlarged book in order to meet the demand for a breed book of the highest class in both text and illustrations. This work was begun three years ago, neither time nor expense being spared to secure the best articles on mating, breeding and exhibiting Plymouth Rocks of all varieties by America's foremost poultry breeders and judges. Illustrations costing thousands of dollars have been prepared by the world's greatest artists for this new edition of "The Plymouth Rocks."

There are now six Standard varieties of Plymouth Rocks, and in the following pages the history of each variety is given accurately from its origin to the present day, making this a text book of rare value to breeders of poultry and students of poultry culture.

It has taken much time to prepare this new breed book, owing to the fact that the text and illustrations had to be brought down to date in order to conform to the revised American Standard of Perfection of 1910.

Among the special feature are: The color plates by Franklane L. Sewell, works of art by a master-hand in correctly delineating Standard-bred fowl; the beautiful half-tone illustrations by Mr. Sewell, A. O. Schilling, H. G. Froby and I. W. Burgess, artists whose work stands unrivalled among delineators of poultry in America and Europe.

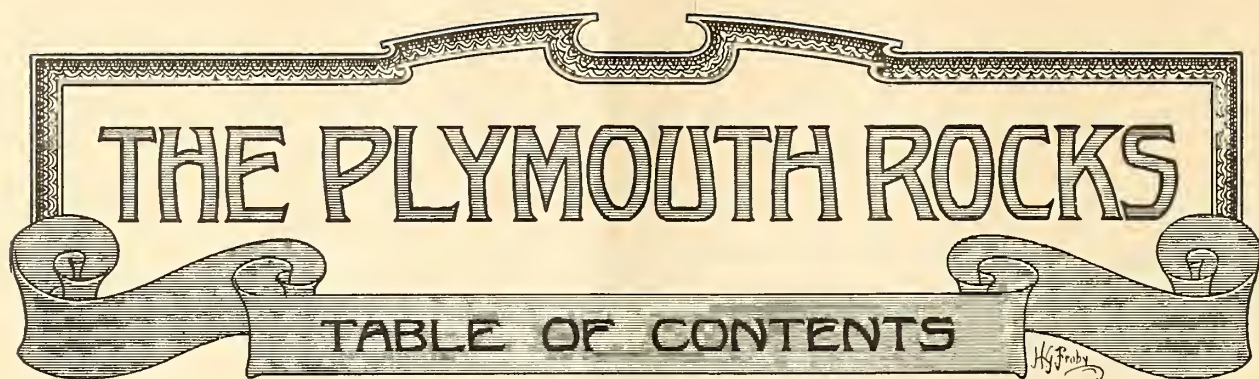
The careful and painstaking research into the origin of Plymouth Rocks and the scientific study of the color problems that confront breeders of Barred Plymouth Rocks, as made by F. W. Procter, comprise two articles of rare and permanent value.

The work of J. H. Drevenstedt, D. E. Hale and F. L. Platt in contributing and securing valuable data has been of great assistance to the editor in preparing the copy for this book, while the articles contributed by noted fanciers and breeders of Plymouth Rocks furnish a feast of knowledge that all breeders of America's most popular and famous domestic fowl will enjoy greatly.

In assembling the many parts of this book, we have enjoyed the work of producing as finished a volume as our ability permitted, and trust that the new and enlarged edition of "The Plymouth Rocks" will prove of lasting value to the breed and also make a valuable addition to American poultry literature.

July 1, 1911.

WILLIAM C. DENNY.



THE PLYMOUTH ROCKS

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CHAPTER I

History of the Plymouth Rocks

Origin and Development of Barred Plymouth Rocks. Original Make-up Due to Chance. American Dominique, Cochin, Brahma, Java, Dorking and Game Blood Used in Producing Type and Color. Difference in the Early Strains of Barred Plymouth Rocks and Their Influence in Building Up the Modern Type. Barred Plymouth Rocks First Exhibited by D. A. Upham, in March, 1869, at Worcester, Massachusetts.

By F. W. PROCTER



It has become no rare thing for American-made breeds of fowls to enjoy that favor abroad which has been accorded American achievement in all phases of human advancement; and the Plymouth Rock, a breed distinctively American in its origin, will retain an enviable position in the history of standard-bred fowl as the earliest breed to win extended popularity in every clime and among all civilized peoples. The Plymouth Rock, in place of being the creation of a group of fanciers during the third quarter of the last century that we are fain to regard it, was in reality the unstudied product of practical breeders, and its makeup perpetuates the history of a century of poultry-keeping upon American farms. Like many a son of the soil that ultimately bloomed into a hero when some timely emergency demonstrated an unsuspected phase of greatness, this disregarded farm-yard fowl, too rustic-appearing and dependably useful to pose as a celebrity—a true ugly duckling, until the age produced a fancier with the insight to recognize the get of the swan—when lo, the breed was revealed in all its deserving quality.

When we come to consider all the facts and conditions we shall agree that those who filled the chief role in the origin of the Plymouth Rock were the importers of the Dorking, Spanish and Asiatic fowls. Nevertheless, we celebrate the achievement of its introducer—a man gifted with the essential foresight and initiative to recognize merit in homespun, to snatch this breed from its rustic environment and bring it forward to the appreciation of the fancier. As the daisy under the poet's magic touch straightway ceased to be a weed, so our eyes only wanted the proper focus of sentiment in order to perceive and appreciate the simple beauty of the Plymouth Rock.

PLYMOUTH ROCKS FIRST RECOGNIZED AS A BREED IN 1869

The evolution of the Plymouth Rock is marked by two eras of development: First, a lengthy period during which the vogue of various breeds then existing in this country dominated its makeup, its color having been originally a natural survival resulting from the dominant nature of barred plumage; and, second, its period of acceptance as a thoroughbred, beginning in 1869, when first exploited as a fowl seeking exhibition honors. The name PLYMOUTH ROCK—a survival from a former, not permanently successful attempt to create an American breed out of Dorking and composite Asiatic blood—seems never to have lost its hold upon the public mind, and was occasionally applied, some years before 1869, to fowls essentially Plymouth Rocks. Generally speaking, however, the term Dominique covers the early period of their develop-

ment. Regarding the Plymouth Rock as a modified Dominique, we should accordingly consider the character of this parent as judged from the information at our command, and then seek to trace the changes wrought by crosses and selection in reaching its present status as a breed.

When we undertake research among the old-time breeds of fowl we meet various obstacles. Not only by reason of imperfections in both text and picture do the early books scantily present the poultry history of their day, but the breed types were in many cases crudely developed, and our accurate knowledge is often marred by a loose nomenclature of breeds. The middle of the last century was quite prolific of poultry books, that period marking the first popular awakening to the possibilities of poultry culture, preceding the inauguration of class periodical literature. These early books both depict and abundantly describe fowls known at that day and earlier as Dominiques, the actual makeup of which was apparently variable. It is along conjectural lines, then, that our conclusions must be reached concerning the character of this old fowl from which our modern Plymouth Rocks doubtless derived a good degree of their general character. Let us consult our old authorities.

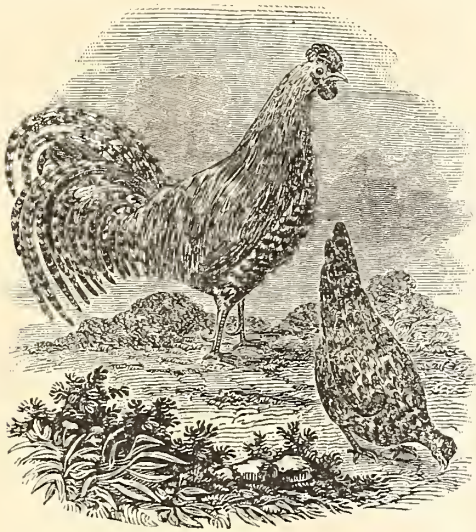
HISTORY OF THE DOMINIQUE FOWL

The name Dominique is a contraction of Dominica, the latter having been still a quite current form of the word within the writer's recollection. These two forms were coupled synonymously by one of the old authors presently to be quoted. It was to the bringing of pit games into this country from the Island of Dominica in the West Indies that we doubtless owe this name. These Dominica games were originally distinguished by a barred plumage, and the significance of their name as implying source we may readily conceive to have become confused with their color, curiously enough to be embodied later in a phase denoting another locality—"Kentucky Dominique", still today the familiar name of a famous strain of pit games. The term "Cuckoo", used in the British Isles to signify the barred coloration, seems never to have obtained in America, and Dominique thus came to be the accepted term to express this plumage.

By such a natural transition, Dominique came to stand for a fowl of composite extraction, undoubtedly the most common type in this country previous to the introduction of the Shanghai or Cochin. The distinctness of this Dominique from the game of that name seems to have been recognized, although one author confused the two in the makeup of his work after having singularized them in its text. This was Martin Doyle, whose "Illustrated Book of Poultry" was published at Philadelphia about the year

1855. "The Dominique Game", says Doyle, "a great favorite in this country, repeats the colors of the Cuckoo Dorking, each feather being banded with dark gray upon a lighter ground." The following description of the Dominique is then interjected within the game chapter:—

"The Dominique is in all respects an American breed, and well adapted to the wants and uses of poultry-keepers who keep fowls for both eggs and flesh. It is a fact well established, that the medium-sized fowls afford the most eggs and flesh for the amount of grain or food consumed. In this respect the Dominiques have no superiors as barnyard fowls. They are perfectly hardy, bright and active, with rose or double combs that will withstand the coldest weather without injury. The cocks weigh from seven to eight pounds, and the hens from five to six; they both have plump and symmetrical bodies, very full breasts and yellow legs. The plumage is at once beautiful, not only on near inspection, but at a distance on the yard or lawn, being shaded with white and slaty blue in narrow bands, and being finely penciled among the smaller feathers, the cock having heavy hackle and saddle-feathers and fine, flowing tail. They are good layers and sitters and careful nurses."



DOMINIQUE FOWL, 1851.

Figure 1.—This woodcut of the Dominique fowl is the earliest known illustration of an undoubted ancestor of our Plymouth Rocks, and appeared as an original illustration for Bennett's work, published in 1851. This is a faithful presentation, for that early day, of the type known to our Standard a quarter century later, as the American Dominique. Although both styles of combs were described, the specimens here shown, in common with all the subjects of illustration, at whatever period, had rose combs. The designer's effort is apparent, in this instance, as in the case of Figure 1, page 24, to depict the "full" tail of the male, with "sickles long, well curved," in this respect surpassing our present Standard's model.—F. W. Procter.

Bennett's "Poultry Book" (Boston, 1851), presents both a cut of a pair of fowls and descriptive text, from which we quote:

"These portraits are from the extensive stock of Geo. C. Pierce and Stephen Osborn, Jr., of Danvers, and are fine specimens. The fowls are a very perfect breed. I have never witnessed the least variation in their appearance, for the last thirty years. Plumage, invariably gray, both cock and hen—all over gray; heads, small and smooth; combs, double generally, though occasionally single, and small; wattles, small; size, below ordinary. They are very hardy, healthy, and excellent layers. I know of no fowls which have stood the test of mixing without deteriorating better than the pure Dominique."

In a letter regarding these fowls, Mr. Pierce says:—

"Taken all in all, I believe them to be one of the very best breeds of fowls we have, and I do not know of any breed that alters so little by in-and-in breeding; they are first-rate layers, and although they do not come in to laying so young as the Spanish, I think them far better sitters and nurses."

Brown's "Domestic Fowl" (New York, 1849) describes the Dominiques or Dominica fowl as being "of medium size, rather longbodied, having yellow legs and feet, single or double combs, and with or without cople crowns. Their general plumage is of a light-grey color, each feather barred crosswise by bands of a darker shade. They are uni-

versally pronounced as being hardy, good layers, careful nurses, and affording excellent eggs and flesh."

The most complete account of the Dominique is given by Bement in the "American Poulterer's Companion" (New York, 1856,) accompanied by cuts of a male and a single feather:

"The Dominique fowl, well selected and carefully bred, is a fine and useful bird. They are distinguished as Dominique by their markings and their color, which is generally considered an indication of hardiness and fecundity. They are by some called 'Hawk-colored fowls,' from their strong resemblance in color to the birds of that name. In England they are usually called 'Cuckoo fowls,' from the fancied resemblance of their plumage to the feathers on the Cuckoo's breast. We seldom see bad hens of this variety, and taking them ('all-in-all,') we do not hesitate in pronouncing them one of the best and most profitable fowls, being hardy, good layers, careful nurses, and affording excellent eggs and first quality of flesh."

"In any close grouping of the breeds of poultry, the Dominique fowl might perhaps be safely referred to the Dorkings. Some of the slate-colored, barred Dorkings are scarcely distinguished from them, except by the fifth toe; still there is something very permanent and remarkable in the peculiar style of plumage that ought not to be lost sight of. It is with difficulty got rid of by crossing. Half-bred Spanish and Dorking fowls have quite retained the barred and shaded feathers of the one parent, displaying the comb, ear-lobe, and stature of the other. And this curious and decided plumage is quite confined to one or two breeds, never appearing, that we are aware, in others, such as the Game, the Malays, and the Hamburgs; a circumstance which makes us believe it to indicate an ancient descent from some peculiar and original parentage."

"The prevailing and true color of the Dominique fowl is a light ground, undulated and softly shaded with a slaty-blue all over the body, as indicated in the portrait of the cock, forming bands of various widths. In order to be fully and better understood, and to show the peculiar markings of the feathers, we procured a feather from one of the hens which is faithfully delineated on the opposite page. (Fig. 3). The comb of the cock is variable, some being single, while others are double—most, however, are single; the iris, bright orange; feet and legs, light, flesh color—some, however, are of a bright yellow or buff color; bill, the same color as the legs."

"The hens are not large, but plump and full breasted. The cocks are somewhat larger than the hens, some approaching the smaller-sized Dorking in weight. The chickens at two or three months old exhibit the barred plumage even more perfectly than the full grown birds. The eggs average about two ounces each, are white, and of porcelain smoothness. The newly hatched chicks are gray, with a dark stripe down the back of the neck, and three on the back, resembling those of the Silver Polands, except in the color of the feet and legs. The Dominique fowl supplies an unfailing troop of good layers, though not quite so early in the season as the Asiatic and some others, they are good feeders, good sitters, good mothers, hardy and are well worthy of promotion in the poultry-yard."

CUCKOO OR BARRED THE PREVAILING COLOR AMONG EARLY BREEDS

From the foregoing testimony it is apparent that in many instances the term Dominique had a generic rather than a specific significance, the classification comprising any fowl of a composite makeup having a barred plumage; and the fact that barred color is a natural finality from the crossing of black and white, or wherever the barred coloration obtains with either parent, attests the prevalence of this color type where selection was not practiced with reference to some other color, as among the generality of poultry-keepers during the first half of the last century. The conditions favor the assumption that the Dominique was the most common color type at that early day, and from our knowledge that the Dorking and Spanish constituted the best-known races of domestic poultry in America prior to the introduction of the Asiatic race, also that a cross of these two breeds would naturally give the barred plumage, we should credit these as the makeup of much of the early stock described as Dominique. And again, considering the possibilities of the Dorking as a source of barred color, the writers of that day sufficiently show the Cuckoo (Barred) Dorking to have been a common type. Tegetmeier, in "The Poultry Book", (London, 1867), quoting an English breeder, says that the pullets of the Cuckoo variety "are the best and earliest to fatten of all the coop"; and considering

their less size when compared with the colored variety that "they quite compensate for this by their superior quality and beauty. They are both double and single combed; the single are rather the larger". The existence of Dorkings of this variety in America is established by means of this extract from Bement: "Among the early importations of pure-blooded Dorkings into this country white more or less prevailed; but many were marked with bands or bars of ashy-gray, like our Dominique fowl."

In summing up our evidence concerning this pre-Standard Dominique, we shall note that it was so well-demarcated a type as to have brought out the statement (quoted by Bennett in 1850) that there had not been seen the least variation in their appearance for the previous thirty years. There can be no denying the age and permanence of this old Dominique type. In the *Fancier's Journal* of December 11, 1876, Mr. J. Y. Bicknell described a pair of Dominiques, winners at Chicago in 1870, of which he had an engraving made, reproduced on page 24, (Fig. 2). This type is true to the writer's recollection of stock exhibited between 1880 and 1890, before the breed had become modified by Plymouth Rock crosses. We have been speaking of the exhibition type of Dominique, described from the time of the original Standard of 1874, until the recent revision as the American Dominique, which is not to be confused with the Dominique or "hawk-colored fowl" of our subject—the forerunner and ancestor of the Plymouth Rock—this latter being an Asiatic modification of the former type.

Up to this point we have considered the Dominique as comprised exclusively of European extraction, which was still the case with exhibition strains until the late 80's, when the original type was obliterated by wholesale crossing with the Plymouth Rock to secure the latter's superior plumage. Beginning with the importation of Asiatic breeds, we have to consider a change in the farm type of Dominiques. After a brief period of scarce stock and high prices, the Asiatic races—first the Malays and Javas, and later the Shanghais or Cochins—came into general requisition for improving farm flocks. In the case of the Dominique the dominant character of its plumage effected its survival, and the hawk-colored farm stock acquired size and shape from these crosses. And thus the Plymouth Rock originated not in isolated cases but in every locality and became a familiar sight wherever these races intermingled. In "Development of the Plymouth Rock", a brochure of sixty pages, (New York, 1880) Rev. D. D. Bishop gives this testimony to the point, the reference of time being three years previous to the public introduction of the Rock:

"In the spring of 1866, when I made my first attempt at housekeeping in my first parish, Branford, New Haven County, Conn., I carried two kinds of fowls. One kind were the so-called Bolton Grays. To these my father, Mark Bishop, Esq., of Cheshire, New Haven Co., Conn., added a lot of Plymouth Rock birds. They were presented to me by that name, and they were Plymouth Rocks, large, strong birds, clean legged, and with good and true color, although they were not so distinctly marked.

"The birds were so commonly kept and known in that neighborhood, that it cannot now be remembered where they came from. It is my belief that they were developed there, on the farm, as in other places. One of the most distinct recollections of my boyhood is of the Dominiques, so that in the interval of my absence from home, in studies, there was ample time, and, with the certainty of Asiatic infusion, the tools to work with were undoubtedly there, with all needful elements and components."

FIRST PUBLIC EXHIBIT OF PLYMOUTH ROCKS

At the Worcester (Mass.) poultry exhibition held in March, 1869, Mr. D. A. Upham, of Wilsonville, Conn., made the earliest public exhibit of Plymouth Rocks, the name at this time bearing the qualification "Improved", in consideration of its previous use by a fowl of another description. So much depends upon foresight and initiative in the timely launching of a breed that Mr. Upham, in his capacity of introducer and leading pioneer breeder, has been conceded the leading honors in Plymouth Rock develop-

ment, the early history of which is most effectively told by selections from the literature of that period. The following account is taken from an article by Mr. Upham, which appeared in *Poultry World* of February, 1876:—

HOW D. A. UPHAM PRODUCED THE FIRST PLYMOUTH ROCKS

"Nearly ten years ago we bred, named and introduced the first fowls and chicks of this variety ever shown to the public, and they were produced first by a cross between a large common hawk colored (so-called) single comb dung-hill cock, with pure black Cochins hens, not Java hens, (which invariably have smooth legs, entirely free from feathers). From this cross a large majority of the progeny were cockerels, very large and fine symmetrical



DOMINIQUE FOWL, 1856.

Figure 2.—This picture, which stood for a Dominique in Bement's Book (1856) is an adoption of outline—as is likewise one representing a White Dorking in the same work—from a color design of a White Dorking by Harrison Weir, to be found in Tegetmeier's "Poultry Book." The fact that a Dorking should be held suitable to fill the role of a Dominique suggests similarity in those breeds. In the remodeling, the comb was unskillfully done, as if originally designed for single and the rose comb an afterthought, made by inserting additional points in perspective. While not properly Dominique, it doubtless presents a common type of the past, suggestive of the "hawk-colored fowl," intermediate in development between Dominique and Plymouth Rock.—F. W. Procter.

birds, many of them of the same plumage of their sire, some with legs heavily feathered, a few with legs entirely free from feathers.

"The pullets, a large percentage, were black, legs heavily feathered, a few were very handsomely marked, black and white, with legs entirely free from feathers, others' legs slightly feathered.

"In the fall of 1866 my attention was called to these chicks by a friend, and we started to see them, and found them in the yards of one Mr. Spaulding, who then lived in Putnam, Conn. Mr. Spaulding bred fowls for market purposes only, and was noted for producing the very best early and late chicks of any farmer around, always obtaining higher prices than his neighbors for his choice poultry. We selected and purchased a cockerel and two pullets, which had clean yellow legs, and of the desired plumage we wished to produce, and bred them. About one-half of their chicks were of the desired plumage. I then selected the best pullets, and bred them to a cock of my own raising, of the same plumage, a descendant from stock which originated from eggs purchased of G. P. Burnham, about twenty-five years ago, said to be Brahma Pootras, or what some fanciers called Gray Chittagongs in those days—which were very large, noble fowls; but with me this variety was crossed with Cochins and English Gray Dorkings, but the cockerels always retained the original steel-gray plumage.

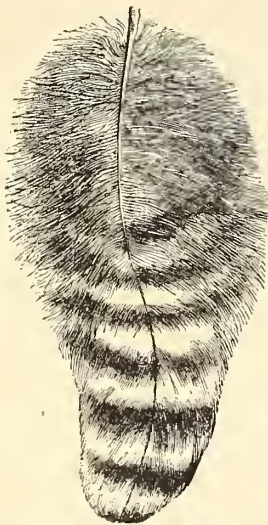
"The second cross from this strain produced very satisfactory results, most of their chicks were of the desired color in both sexes; very few black, and most of them with legs free from feathers, and bright-yellow in color. From this cross I have selected and bred from the very best specimens, and by judicious mating have, for the past three years, succeeded in breeding them as true to feather and points, and a greater number of fine exhibition birds from a clutch of eggs, than from any other variety we ever bred. They are now very large, fine in shape, and very handsome plumaged birds. They fledge quite young, grow rapidly, mature earlier than any other fowl of their size, are very hardy and easy to rear, and for early marketing there is no breed to be compared with them; are fully equal to the Brahmas as winter—and superior as summer—layers, not frequent sitters, excellent mothers, great foragers, and are truly the farmer's fowl. Matured weights, on an average, from twenty-five to thirty pounds the trio. Extra fine specimens have been known to reach thirty-two pounds.

"This, in short, is the true origin and general characteristics of the genuine Plymouth Rocks of today."

THE SPAULDING CROSS-BRED STRAIN

The following statement regarding the makeup of the Spaulding cross-bred stock purchased by Mr. Upham was contributed to the Poultry Bulletin of March, 1873, by H. S. Ramsdell, a prominent breeder of that day:

"They were produced on the farm of the late Joseph Spaulding, of Putnam, Conn., which is situated about one mile from my own. I was intimately acquainted with Mr. S., while he lived and I was thus given an opportunity of knowing the facts of which I speak. Some thirty years



AMERICAN DOMINIQUE FEATHER.

Figure 3.—This authentic study from life is a neatly-executed pen-and-ink drawing of a Dominique hen's feather reproduced from Bement's book, presenting the natural status of the Dominique plumage. A half century of selection to perfect the color, as seen in our modern Plymouth Rocks, has eliminated much of the native dark undercolor and developed barring in that section to conform to surface.—F. W. Procter.

since, John Giles, Esq., (well known to the poultry world) introduced a fowl into this vicinity called Black Java; its plumage was black and glossy, its size large, (Mr. G. said the pullets had sometimes reached eleven lbs.) They were an unusually hardy bird, with a dark slate-colored smooth leg, and the bottom of the foot yellow. They proved good layers, and of extra quality for the table; not coarse like most of the large sized birds, but fine and juicy. I sold a few of these birds to a Mr. Thayer of Pomfret, of whom Mr. George Clark of Woodstock, Conn., purchased some—he supposed the same. Mr. Clark, passing Mr. Spaulding's yard one day, noticed his fine flock of Dominiques, and proposed bringing a few of his Javas over to cross with them, to increase the size. Mr. S. accepted the offer, and when the chickens were grown rejected the black ones, and those with double comb; reserving to breed from only the single comb birds which retained the Dominique color or near it. They were usually of darker plumage than the Dominique; the legs sometimes resembled the Javas,—dark with yellow feet,—but were mostly yellow, or yellow with a slight streak of dark on the front of the leg, which with the feet are free from feathers."

The discrepancy of statement of Messrs. Ramsdell and Upham regarding the makeup of the Spaulding cross gave rise to a controversy of long standing which has been revived in recent times. Mr. Ramsdell may be presumed to have been speaking of the original Giles stock as having smooth shanks; and we may surmise the intervening thirty years to have furnished abundant opportunity for it to have acquired feathered legs by Cochinchina crosses. Mr. Upham's statement has a backing in indisputable fact, as a tendency to feathers upon shanks was the source of constant annoyance to the early breeders. His assignment of the Clark fowls as having been Cochinchinas does not refute the Java claim, as the old-line non-Standard Javas were closely allied to the Black Cochinchina. In testimony of which fact we have the following statement by Mr. I. K. Felch, from the Poultry Monthly of December, 1891:

"In 1852 the first heavy black fowls of an Asiatic type appeared in Massachusetts as Black Javas. The females were black; some of the males were wholly black, others had mahogany streaked necks, with red mahogany round spots on the wing coverts. The Cochinchinas, or Shanghaies—they were called by both names—came to us in buff, grouse color, black-reds, the black now and then appearing. From the first trio I owned, a male, then called Black-Red, identical with Partridge Cochinchina male of today, a buff colored pullet, and hen buff in ground color, minutely pencilled with dark brown, came black chicks, as well as some the colors of Partridge, Buff and White Cochinchinas, which bred true to color. The first Black Cochinchinas were a dull black. When the first American Standard was made all these Shanghaies were christened Cochinchinas and the Black put in the list; this ignored the Black Javas and forced them into the Cochinchina class. Many breeders were striving to breed them to smooth shanks, and birds were becoming more plentiful with the smooth shank. The action of the fanciers was somewhat censured for thus ignoring a breed which some claimed were older residents of the country than the Cochinchina. But the act pressed all the Black Asiatic blood into the class; the result was that for a while, although the Blacks were less pure in Cochinchina type, they were the most prolific, in that they laid more and larger eggs. The use of the Langshan blood with these dark birds fixed the intense black color for the race; since 1876, we see these Black Cochinchinas nearer Cochinchina shape, in fact, first-class in that respect; they have had these crosses of blood, which the Buff and Partridge and White have not, and it was their influence that gave them the egg productive advantage."

The essential points of contention regarding the character of the two stocks of fowls which went to make this early cross would seem to be fully reconciled by the assembling of testimony from the above source. Misconceptions arising in the faulty nomenclature of breeds may be held to have been the source of all the discrepancies of statement. The fuller facts allow us to conceive how the hawk-colored Spaulding stock was held to have been variously Dominique and not Dominique, and the black stock either Java or Cochinchina according to how we define those terms. With the literature of the breed now fully ransacked, and those conversant with its early history having presumably yielded up their full information upon the subject, we feel that our knowledge of Plymouth Rock origin is as complete as it is likely ever to be. A natural eagerness of the public as to the original source of breeds which reach popularity magnified the importance of non-essential facts.

The Upham Strain was the most thoroughly exploited as to its origin, as was naturally to be expected of the introducer's stock, especially as its source was the most fully divulged of any. The Spaulding stock direct had quite a vogue, being originally the same as Mr. Upham's; but the cross instituted by the latter seems to have been recognized as an improvement: which is quite conceivable, as tending to lighten up the previously too dark plumage as well as increasing size and rotundity of the body. The immediate success of the Plymouth Rock, dating from its first appearance at Worcester, in 1869, may be inferred from the fact that Mr. Upham at this comparatively unimportant show took orders for over one hundred sittings of eggs at two dollars per sitting—a rare accomplishment considering the undeveloped state of poultry-keeping at that early date. In addition, two of the three trios shown were sold.

and this was the beginning of a large trade developed by Mr. Upham in all sections of the country.

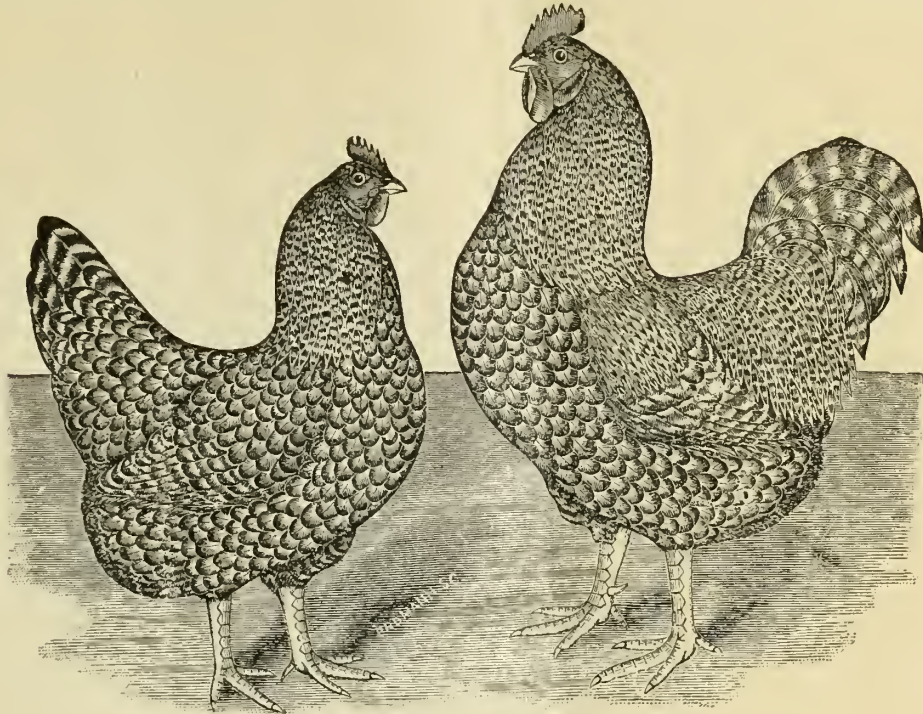
ORIGIN OF THE DRAKE STRAIN

We have specific accounts of two strains of Plymouth Rocks which did not go to the Upham or Spaulding blood for their foundation. The following is from an editorial contained in the *Poultry World* of March, 1876:

"Mr. A. H. Drake, of Stoughton, Mass., has a strain of Plymouth Rocks which he has bred for about nineteen years (he does not give the exact dates), which has not a drop of the Spaulding blood, or the slightest admixture from any other strain. The basis of this breed was native hawk-colored fowls found in Mr. Drake's neighborhood. Mr. Drake added something else to this basis, but does not tell what. Mr. Spaulding's Plymouth Rocks were founded, in part, on hawk-colored barn-door fowls."

Mr. Drake gave this account of his strain: "Being out of health, I engaged in the picking up of fowls about the country, for market purposes. Coming across a lot of 'hawk-colored' pullets, I was so pleased with them that instead of butchering, I bred them with an available Asiatic grade." (Bishop's Book) The editorial above quoted (*Poultry Monthly*, March, 1876) goes on to say:

"We have word from a Pennsylvania correspondent that on farms in Bucks county, in that State, fowls have been found, almost from time immemorial, that were identical with Plymouth Rocks, and were produced, incidentally, by the introduction of Asiatic blood to the common hawk-colored stock of the country. It must be kept in mind that upon many farms in all parts of the land, twenty, fifty, one hundred years ago, hawk-colored fowls were common. The modern Dominique fowl is nothing more or less than the hawk-colored dunghill bird, improved by cultivation. For that matter so is the Leghorn a genuine



BARRED PLYMOUTH ROCKS, 1880.

Figure 6.—The subjects of this illustration, in common with those shown in Fig. 1, page 23, may be taken to represent the Barred Rock breed at the time when it came into Mr. Upham's hands—hawk-colored common stock modified by the Black Java cross—preceding the period of general crossing with Asiatic fowls. This cut appeared in Rev. D. D. Bishop's work on the Plymouth Rock (1880) with the following foot-note: "Portraits made by Erdmann of cockerel and hen from my yard. They were published in January number 1880, *Poultry Bulletin*, and since then verified by scores of visitors. This hen looks better in profile than in full front view. She is not broad enough. The cockerel, from her, is all that the portrait represents him to be—as fine in head and comb, and as broad and full in body."

These specimens betray a likeness to the Dominiques (as seen in Figure 2, on page 24), to a degree not manifest in later cuts of Plymouth Rocks.—F. W. Procter.

Mr. I. K. Felch is authority for the statement that the Asiatic blood which Mr. Drake infused into his stock of "native hawk-colored fowls" was the Dark Brahma. The above named issue of the *Poultry World* contained the following statement from the pen of Mr. Geo. P. Burnham, well known as an early breeder of Asiatic fowls and author of books upon poultry:

"There is another strain of so-called 'Plymouth Rocks', however, bred for fully a dozen years past in Essex County, Mass., which very strongly resemble the stock Mr. Upham describes. This strain was produced from a cross with the Dominique blood. I know thousands of these Plymouth Rocks have been sold all over the country, and many have been sent to England from Salem, Danvers, Beverly, etc., from which sources the first English birds were had, from America.

"Now, I have it recently, from one of the oldest breeders in Massachusetts, that this Essex County breed (or cross) of Plymouth Rocks was originally produced by introducing a gray cock, from G. P. Burnham's stock—over twenty years ago—among a fine flock of Dominique hens, and breeding from the progeny through careful succeeding selection and mating for color and points."

Italian dunghill fowl, improved. The Brahma is simply an Asiatic dunghill fowl; and the same may be said of all the pure-bred varieties.

"When the smoke is cleared away it will be found that this breed has had several independent origins. As oil and potash may be united and soap made anywhere, so hawk-colored barn-door fowls may be amalgamated with some Asiatic variety, in any state in the Union, and Plymouth Rocks formed."

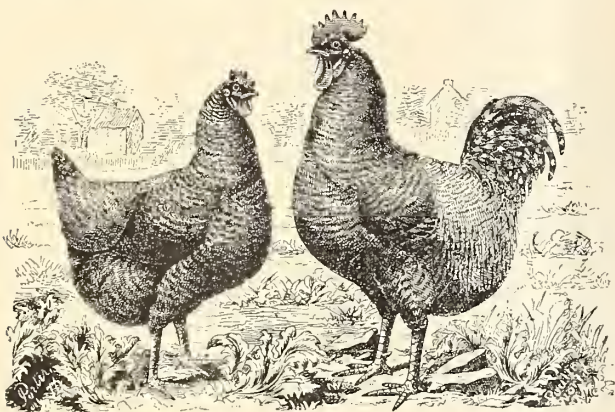
THE ESSEX STRAIN FOUNDED BY MARK PITMAN

The gist of the whole evidence as to Plymouth Rock origin is uniformity of hawk-colored fowls—which presumably had already been differentiated from the older Dominiques of Spanish-Dorking extraction by infusions of Asiatic blood—still further enhanced by blood from that source. In the Essex strain, yet to be described, still more Asiatic, as well as Dorking and game blood, were yet to be added. This strain was founded by Mr. Mark Pitman of Salem, Mass., from one of Mr. Upham's original trios shown at Worcester in 1869. Mr. Felch, by his own account of the strain's origin, purchased this stock after it

had received certain "additions", which were not specified. From whatever source Mr. Pitman had succeeded in producing a clearer barring, as regards sharply contrasted color, than heretofore seen; and Mr. H. B. May of Natick, into whose hands the stock was placed, still further improved the bodily type by a cross with a grade game male, described as "a solid, heavy bird, of great vigor and endurance." In three years all visible effects of this out-cross had disappeared, leaving as a result a very solid and compactly-built fowl, very closely feathered, a red eye being a persistent feature. The following is the completed account, in Mr. Felch's words, of the building of this strain:

"Subsequent to 1869, Mr. Drake, of Stoughton, created his strain by introducing into the Rocks some Dark Brahma blood, and he produced the trio which won at Boston, Worcester, Northampton, and other places. A Mr. Britton, of Greenfield, achieved an enviable reputation in breeding and showing birds of the Drake strain. Mr. Gray, of Walpole, also had a good strain in which was incorporated a degree of colored Dorking blood. Greyish-salmon breasts and fifth toes would occasionally appear in his flock.

"We put eight of the best birds bought of Mr. Pitman



BARRED PLYMOUTH ROCKS, 1877.

Figure 7.—Of the above illustration *Poultry World*, April, 1877, remarks: The accompanying cut represents stock of the "advanced type, favoring the Dorkings in shape," such as Mr. F. H. Corbin, of Newington, Conn., is aiming to produce at his yards. Mr. Corbin says that with him the old fashioned, Cocker-shaped birds and those of the Brahma style find no favor.—Editor.

on the farm of H. B. May and bred them there during 1877. In the spring of 1877 I purchased of the sheriff of Greenfield three males and nine females of the Britton-Drake strains. In the same spring I made satisfactory arrangements with Bruster French, of Natick, who was breeding the Gray family alluded to previously. The cock, Col. Gray (see *American Poultry Pedigree Book*), was taken to Mr. May's farm and mated to Lady Pitman 1st. I also took a Pitman male bird to Mr. French's farm and mated him to a sister of Col. Gray. The pen of Greenfield pullets, among them Lady Greenfield, was mated to Prince of Middlesex—a Pitman cockerel. A Greenfield male, brother of Lady Greenfield, was mated to sisters of Prince of Middlesex. This apparently mixed breeding gave all the progeny the same percentage of the different bloods of their ancestors, and they all were referred to afterwards as the Middlesex-Greenfield birds. To the original cock, Mark Pitman, I mated Lady Pitman, with four of their daughters, in order to get pure Pitman blood to use in my subsequent matings. This was the first studied mixing of Plymouth Rock blood and this is the way I produced the Essex strain."

INFUSION OF WHITE BIRMINGHAM AND BLACK JAVA BLOOD

In the *American Poultry Journal* of June, 1883, Mr. Felch more specifically outlined the pedigree of the cock "Col. Gray," as being "the offspring of a male produced by the cross of White Birmingham sire with Black Javas, and topcrossed with single comb Dominique, and out of a Drake hen." The nature of this cabalistic White Birmingham—a term which seems never to have been used in this connection except by Mr. Felch, was not divulged in print, but he who reads the history of those times be-

tween the lines meets no difficulty in construing this patriarchal getter of larger and lighter colored Rocks into a white sport from Light Brahmas. The results of this cross so amply met the advancing ideal as to have found a wide demand. Continuing to quote from Mr. Felch's contribution to the *American Poultry Journal*:

"While the pullets thus produced were bred back to the males pure in the blood of the original purchase, so marked has been the effects of this strain upon the Plymouth Rock race that a man's winnings are a sure indication of its being in part or whole Essex blood. And here I assert, without fear of denial, that three-fourths of all prizes won in the past four years are, if the breeder will be honest in showing up their pedigrees and history of their breeding, one-fourth or more of this blood. And the grand old trio that the founder of this race was disqualified at Music Hall show, Boston, for downy feathers between the toes of one of his hens. Yet in them we find that 'the stone the builders rejected has become the chief stone of the corner', and the race the only one that has a fair and square title to the championship among the Rock race of fowls."

CHANGES IN TYPE CAUSED BY THE INFUSION OF LIGHT BRAHMA BLOOD

This Brahma infusion made a noticeable addition to the type of Rocks hitherto known, a fact within the experience of those conversant with the varying type shown by the breed for the full period since its introduction, and also exemplified in the cuts produced in the successive stages of the breed's development. The influence of Brahma blood was manifest in various ways. Disqualification for feathered shanks or feet, as instanced at the Boston show above recorded, was re-enacted at many times and places during the years following. The pea-comb cropped out frequently, giving origin to a variety of that description, which gained a brief Standard recognition. And as to color, it is a matter of history how Barred Rocks crossed with White Wyandottes reverted to Light coloration, thus founding the original strain of the Columbian Wyandotte.

As has been shown in the foregoing sketch of the several strains, amply borne out by the illustrations to our text marking its varying type at successive periods of development, the Plymouth Rock was no sooner before the public than it began to take on essential changes in bodily type, including size and shape. The early Rocks had in many cases proved to be remarkable egg-producers, which trait went far to establish their popularity. Indeed, it was due to practical considerations rather than to any external charms that this breed gained its early favor. The Asiatics had passed through their period of phenomenal vogue based upon their novelty and resulting inflated value, and having proved of too unwieldy size and slow development to suit the needs of practical poultry-keepers, had been generally dispossessed in favor of their crosses upon the smaller native stock. The Plymouth Rock may thus be said to have been practically known long before its recognition under this name. Both from its known plebeian origin and a commonplace color of plumage—for the barred coloration had ever been considered an attribute of the dunghill—the aspirations of Plymouth Rock breeders at first met with general ridicule among fanciers. A few gifted with prophetic instinct having championed them, soon their popularity was widespread. Seventeen years after their first appearance in the show room, the *Poultry World* (December, 1885) said: "The number of breeders of Plymouth Rocks exceeds that of any other variety."

The status of the Plymouth Rock as regards color during the early stage of its development is preserved to history in a contribution by Mr. N. D. Forbes to the *Poultry Yard* under date of February 28th, 1885:

COLOR OF EARLY PLYMOUTH ROCKS

"Ten years ago I found the Plymouth Rocks, as a breed, in a most unsatisfactory condition, for the fancier, or anybody else, to handle; they bred true to but one condition, namely: the old-fashioned hawk-color, called the Dominique in America and Cuckoo in England; and even this was in all the shades which the tastes of hundreds of breeders and originators could conceive. Nearly all pullets came dark, some smoky. It was rare to see good, yellow

shanks on females until the second year, and a pure yellow beak on either sex was rarer still. In plumage the cockerels were as diversified as the pullets—perhaps more so. Very seldom were they seen light in color without having white sickles, nearly white hackles, saddles and wing-bows, while a brassy tinge was a natural accompaniment. In both sexes the markings varied from regular bars to spangles and splashes, while feathers on the shanks were common in some families. Some families, also, were wonderful egg-producers, while others affected equally persistent broody qualities."

Of similar import regarding the early Plymouth Rock's plumage was the testimony of Geo. P. Burnham, published in the *Poultry World* in 1874: "It is very like the Dominique fowl except that it is larger; and a dozen cages of these two varieties standing alternately side by side in the show-room would readily be mistaken by the unpracticed eye to contain the same kind of fowls at maturity."

PRACTICAL QUALITIES OF PLYMOUTH ROCKS

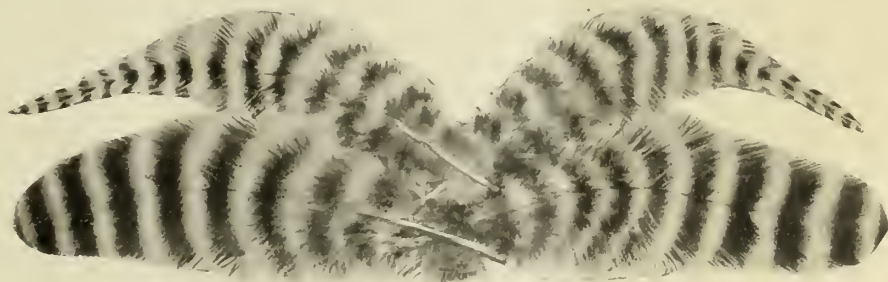
It would be anticipated that a fowl so wanting in external charm as the Plymouth Rock is shown to have been at this period, must have possessed practical qualities in a compensatory degree. Its diverseness of makeup in various breeder's hands would allow of a wide range of merit as to laying qualities; and in other useful lines, especially as regards carcass excellence, there seems never to have been a division of sentiment. The following contribution to the *Poultry World* of March, 1876, is a fair sample of commendation which the Plymouth Rock then received:

"I am a subscriber to your paper, and read a short time since an inquiry in regard to the number of eggs the general average of hens would lay in a year. This is my experience with eight hens, breed, Plymouth Rocks. The first of September, 1874, I purchased of E. Smith, Wolcottville, Conn., 8 pullets and 1 cockerel, hatched the last of June, the first egg was laid on the 20th of November, and there has not been a day since, up to Nov. 20th, 1875, but that I have had eggs. I have not allowed them to sit and no one has stopped laying more than a week from wanting to sit. The total number laid was 1841, an average of 230 each. I have fed them wheat except during the coldest weather, corn at night, when the days were the longest. I consider them the hardiest fowl raised. I have about a fair average place to keep them; by no means an extra good one. I have never cooked any food for them, nor given them anything warm in cold weather. They have been fed regularly, given fresh water twice a day, and have access to scrap and fine oyster shell, always. I keep them shut up all the while, except an hour every two or three days, when they have the liberty of the dooryard."

The diversity of type early shown by the Plymouth Rocks readily accounts for the difference of opinion re-

garding them as layers. Many stocks in which the Asiatic infusion was heavy proved flesh-formers, rather than prolific layers—a condition easily reached even to-day through injudicious management. Fecundity and meat-production are in a measure antagonistic; and it is not incredible that the excessive weights to which some Rocks were bred militated against their greatest usefulness. An intermediate size was the early-avowed scope of the breed, but this was soon exceeded by Rocks equalling Asiatics in size. The original Standard of 1875 had not considered this point; but three years later, weights were set at ten and one-half pounds for cocks, nine for cockerels, eight and one-half for hens, seven for pullets. Five years later these weights were reduced, one pound for males, one-half pound for females, in each instance; again in 1883 the hen's weight was reduced one-half pound more, to seven and one-half: at which point the weights have since remained.

From the foregoing account of the Plymouth Rock's origin, it is apparent that this breed's original makeup was the matter of chance rather than of a studied effort to produce a fowl of well-balanced characteristics—the inevitable outcome of a wide-spread origin, especially as the difficulties attending the perfecting of its plumage were such as to divert attention from utilitarian considerations. In the case of the Essex Strain we have a detailed account of the breeds used, but nothing to forestall the conclusion that a certain physical exterior was the exclusive aim in its development, rather than any specific phase of usefulness, as early development, or abundant egg-production. In the lack of any definite ideal, Asiatic blood was given undue prominence in Plymouth Rock makeup, and it was soon realized that the most available size had been considerably exceeded. Asiatic character dominated shape also, until the old Dominique was to be recognized only in the color. Under these conditions it is not to be wondered at if some complained that the sturdy early-maturing, persistent-laying character of the Dominique had been missed in this new breed; and especially when experience had demonstrated the difficulty of breeding the early Rocks to a satisfactory uniformity of color, was the breed laid aside by some, to be again embraced when later improvement and growing popularity again recommended it as the one fowl known at that day of universal adaptability to all phases of poultry-keeping.



FEATHERS FROM PULLET BREEDING MALE AND FEMALE

The illustration above was made from feathers selected from a pullet breeding male and female in the yards of C. H. Latham, Lancaster, Mass. Mr. Latham has been very successful in producing bright colored and snappy barred pullets and attributes his success to the above combination of feathers "that breeds down-to-date" exhibition Barred Plymouth Rock Females.



FIRST PRIZE PEN BARRED PLYMOUTH ROCKS BOSTON SHOW JAN. 1911.
PITTSFIELD POULTRY FARM PITTSFIELD MAINE OWNERS & BREEDERS.

The male and females illustrated above combine in a marked degree fine exhibition points with strong utilitarian qualities. The females look like business hens, birds that show egg laying capacity as well as meat producing qualities. The male looks active and vigorous, besides having the color and barring that make up a first class exhibition specimen.

CHAPTER II

Evolution of Plymouth Rock Type

The Early Plymouth Rocks and How They Differed From Present Ideals. Remarkable Changes in Plymouth Rock Shape from 1873 to the Present Standard Described in Detail and Illustrated in Outline. Winning Types of the Past. Wyandotte and Plymouth Rock Standard Outlines Are Contrasted

By FRANKLANE L. SEWELL

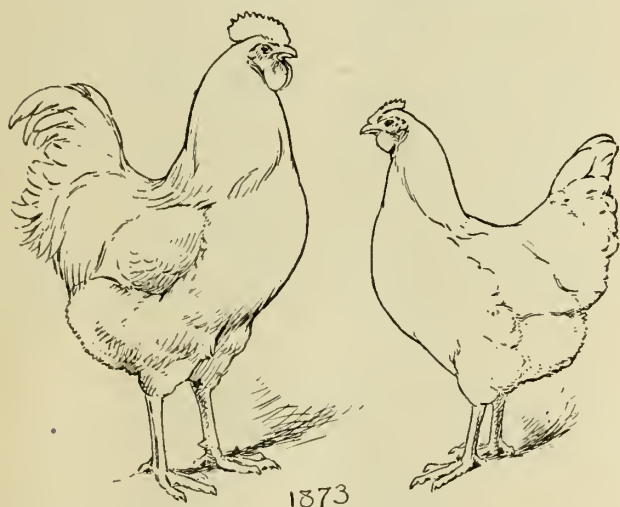


WE have chosen to illustrate this article with outline only, dealing with the subject entirely as a question of shape.

In the early days of the Plymouth Rock, when the names of D. A. Upham, Mark Pitman and A. H. Drake stood out prominently as leading breeders of this new contestant for public favor, a very good illustration of the breed appeared showing lifelike expression. This plate we just saw in an 1873 issue of the Poultry World. It bears the marks of accuracy and impresses anyone familiar with the earlier Plymouth Rocks as hav-

There were in those early products, bearing the name of Plymouth Rock, qualities of shape that bore no little resemblance to the Dominique—modified to be sure, by the heavier, rounder Asiatic crosses. The general form of this male impresses us as undersized, compared to the heavy looking type of today, and the female's shape is decidedly of a type not very much heavier than the Dominique. Large Plymouth Rock hens of the modern type with Leghorn males often produce birds that resemble the shape seen in these early Plymouth Rocks.

Selection, and we doubt not, additional crosses of Asiatic blood, such as the so-called "White Birmingham" in the



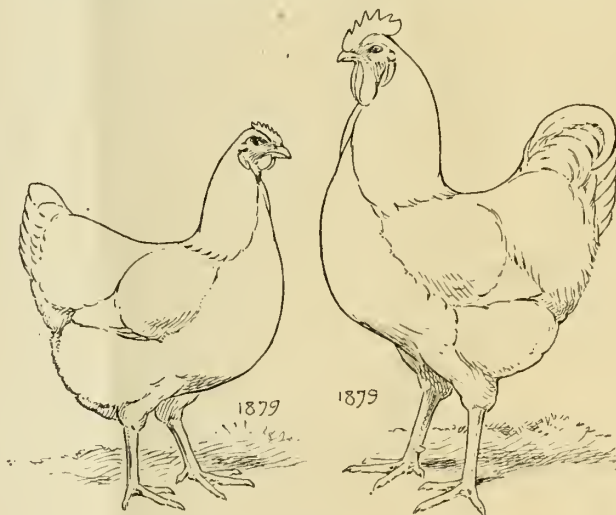
1.—PLYMOUTH ROCK OUTLINE, 1873.

An outline from a very early illustration of Plymouth Rocks in Poultry World, 1873.

ing been a faithful drawing. The type of many representatives of the breed seen fifteen years later, when the 1888 ideal appeared, was not a very long step from this very early cut. (Those who have the old issues of the Poultry World will tolerate the liberty I have taken in making this outline of the plate in that I have replaced the sickles on the farther side of the tail—which in the original were illustrated as being blown forward by the wind—as we considered that in comparing it to other pictures of more modern specimens, these wind-blown sickles might depict the wrong impression.)

EARLY PLYMOUTH ROCKS

The male in illustration 1 is considerably fore-shortened, so that the outline scarcely gives creditable length to the bird's back. He is not so very different in general type from many of the more ordinary fowls of stock considerably cross-bred with Plymouth Rocks of the present time.



2.—PRIZE WINNERS IN 1879.

Outline of an engraving by B. N. Pierce, portraying Plymouth Rocks that were winners of first prize at Indianapolis, 1879.

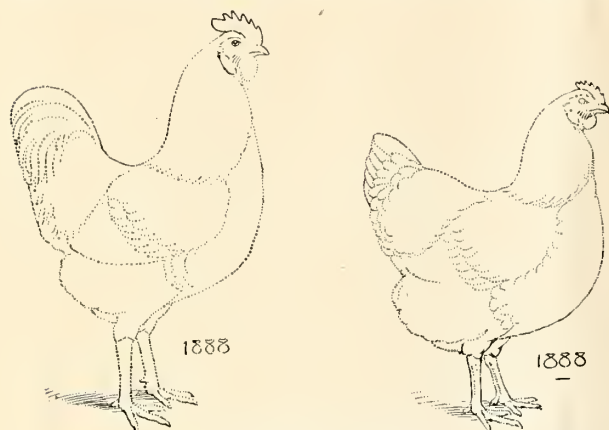
Essex strain, have developed a longer type and heavier body in the breed.

Among the best plates that helped to establish in the mind of fanciers and breeders the types that have led toward the ideals of today, was the work of Mr. B. N. Pierce, representing a pair of winners at Indianapolis in 1879. The outline of this plate, seen in 2, shows that the artist gathered—perhaps idealized considerably—but at all events, drew nearer to present day ideals of perfect Plymouth Rocks than was seen in many following illustrations for several years.

The length of the body and sweep in the back, the shape and carriage of the tail and generally compact bodies, the firm plumage, carriage of head and neck, the strength expressed in the way both birds stand so firmly upon their legs, very well express the American idea of the Plymouth.

This plate was frequently published during the early

'80's, and Mr. Pierce made for a number of breeders several other plates, portraying the Plymouth Rock, that varied not a great deal from this pair in the more important sections; however, this plate we have often considered



3.—STANDARD OUTLINES, 1888.

The illustration shows the outlines of ideals of Plymouth Rock male and female in "obsolete" edition of Standard, 1888.

most representative and truest to life and the breeders' ideals, of the period during which it was most often published, (the early eighties).

STANDARD SHAPE IN 1888

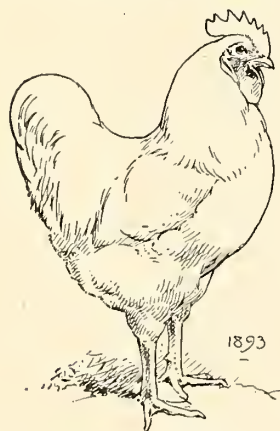
The dotted outlines in illustration 3 showing the shape expressed by the ideals published in 1888 by the American Poultry Association in the Standard (soon after declared obsolete), did not satisfy the Plymouth Rock breeders of that time, nor did it approach as near to life or to symmetrical outlines as did a number of Mr. Pierce's illustrations of the breed which were published, as representing individual specimens.

On comparing these "obsolete" ideals with other pictures of the Plymouth Rock of its time, it must be recognized that they were a step backward, not up to the best in the breed of their day. The body, in the outline of the male, is particularly contracted and does not represent the fulness that could be developed, nor that was seen in the best. The short, concave back represented in the male was a hobby in the minds of a few of our western breeders that we meet at Chicago exhibitions.

Capt. James E. White, one of the most prominent breeders of Chicago, about that time expressed his fancy for this fashion of back and saddle to me, as "a back into which the outside of a crescent would fit" and others for a few years followed the same fad—later, however, they again made selections among the longer bodied birds—much, we believe, to the improvement of the bird.

PROGRESS MADE IN 1893

The outline of the ideal issued by the Plymouth Rock club in 1893 (see ill. 4) was made under the direction of Mr. E. B. Thompson, to whom with Mr. Geo. O. Brown, belongs the credit of organizing the club that has done so much for the breed. Mr. Thompson has done much

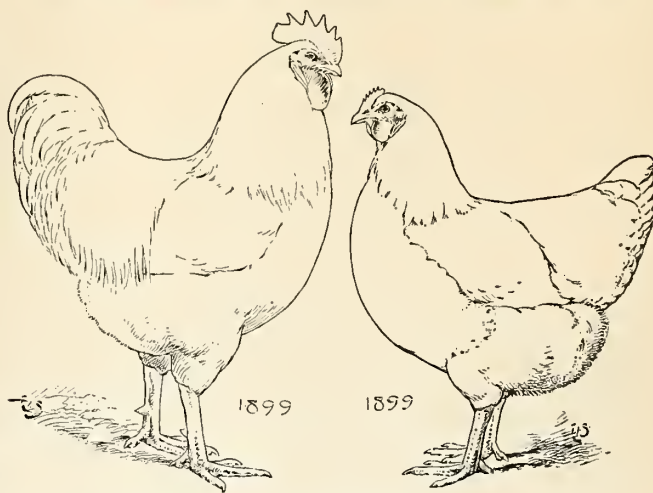


4.—OUTLINE IN 1893

An outline is here shown of an illustration of ideal Plymouth Rock male issued by Plymouth Rock Club, 1893.

for the breed in the models he has produced since that year. The full hackle of the neck and the backward carriage of the head, gives the back a shorter appearance than present fashion would approve. The rather high

carried tail also detracts from the length of the line of back and saddle. In 1899 we received an order from the Plymouth Rock club to make them another set of ideals, up-to-date. These were sketches, representing our understanding of what breeders were then striving to produce. The principal models being winners at Boston in 1898 and 1899, with some sections improved from suggestions taken



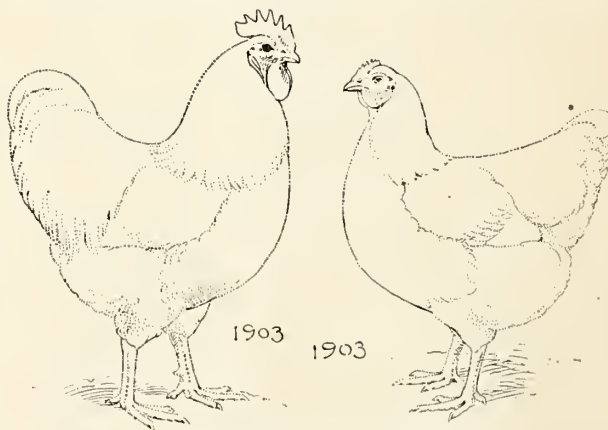
5.—IDEAL, PLYMOUTH ROCK OUTLINES, 1899.

Outlines showing shapes of Plymouth Rock male and female drawn for American Plymouth Rock Club in 1899.

from winning specimens at New York, with progressive ideals gleaned in conversation with the leading judges and breeders. These ideals, which are outlined in illustration 5, were criticized to quite an extent, especially the male, the main criticism being that the back of the male was too concave. The ideals from which there are accurate outlines were finally approved and sanctioned by the club at their meeting at the Pan-American Exposition at Buffalo, and published in their 1901 catalogue.

STANDARD IDEALS, 1903

At Cleveland in December, 1902, the American Poultry Association decided to publish illustrations in the next issue of the Standard of Perfection. In 1903 the ideals



6.—STANDARD OUTLINES, 1903.

The above are outlines of the ideal Plymouth Rock male and female in the present Standard of Perfection, revision of 1903.

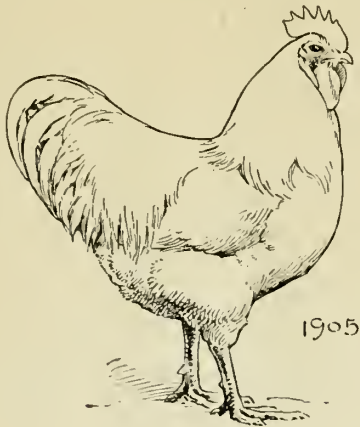
for the Barred Plymouth Rocks were composed from the best models that had appeared at leading shows, including New York, Boston and Chicago for the several previous years.

The selection by the breeders of their very best, which they brought to the shows for competition, and the decisions of the leading experts pointing out by their

awards what they considered choicest among the best, certainly offered safe guides as models for the composite ideals.

These composites were accomplished by selecting from among the very best of these winning models, those specimens showing the greatest values of Standard merit, in positions that rendered their proportions normal, as usually posed by judges when deciding awards. The best qualities of each of these models were combined into one symmetrical figure, true to natural limitations.

These ideals, whose profile shape only is expressed



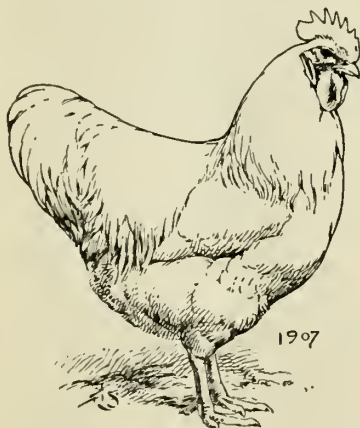
7—A MODERN TYPE.

A reality of the present fashion in Plymouth Rock shape. An outline of a White Plymouth Rock cock that has been three times winner of first prize at New York.

here in the dotted outlines of number 6, were presented at the Rochester meeting February, 1904, of the American Poultry Association and approved without change.

THE BACK IS A DISTINCTIVE FEATURE

It will be noticed that up to the present time ideals for the Plymouth Rocks have been presented with but moderate length of back. This section—the back of the Plymouth Rock—has been one of its most distinguishing sections of shape in the show room, separating it as to breed shape from the Java, the Wyandotte, etc.



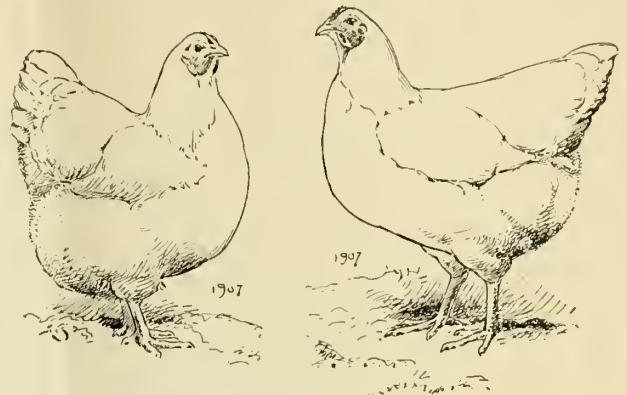
8—A 1907 WINNER.

An outline of the Plymouth Rock cockerel, first in cockerel breeding pen at New York, 1907, showing a reality of the long sweeping back and saddle in the Barred Rock variety.

The earliest Standard published for the Plymouth Rock merely described the back of the male as "very broad." That was a grand qualification of great importance to a truly ideal specimen.

In the female a fuller attempt at description of the back was: "Broad, the neck feathers flowing well over the shoulders and saddle feathers quite full."

In 1886 the length of back of the breed was given more attention in the male. Our Standard of Perfection was then worded thus: "Broad, of medium length and with saddle feathers abundant." In the female: "Broad and of



10—A CONTRAST OF SHAPES.

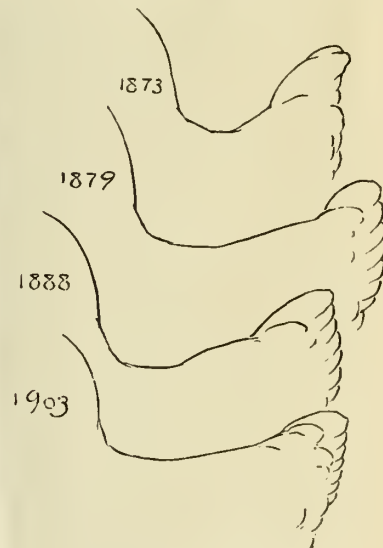
The above Wyandotte and Plymouth Rock outlines are here compared for the purpose of showing extremes of fashion in 1907. At left is the Wyandotte, very deep and round with fluffy plumage; at the right the Plymouth Rock, very long and firm with compact, smooth surfaced plumage.

medium length, slightly cushioned from center of back to tail."

This was a good description for the back of this breed as found on the majority of specimens that showed size and breadth.

ENGLISH IDEAL SHAPE

The English Standard sums up shape of Plymouth Rock in "General Shape and Carriage"—"Upright, noble and grand; somewhat like a Cochins, but not fluffy." Here the British Standard recognizes a fulness in the general form of the Plymouth Rock, but emphasizes the



9—CHANGES IN BACK OUTLINE.

The illustration shows graphically the marked variation in outline of the Plymouth Rock back from 1873 to 1903. This is one of the most prominent features taken into account when judging Plymouth Rock shape.

compact, smooth surfaced plumage of the bird in the last two words, "not fluffy."

The artists of England have almost invariably illustrated the breed, up to within a few seasons past, with a moderate amount of convexity on the cushion of the female. Of late years a closer feathered type has occasionally been shown at their exhibitions.

Since a determination has arisen to show more distinction between the shape of Plymouth Rock and Wyandotte

dotte, Standard revisors have in the last issue of the Standard of Perfection allowed the Plymouth Rock the description for back in male as "Rather long, broad, rising with slight concave sweep to tail" and in female as "Broad, rather long, rising with gentle incline to tail."

In this description, favor is plainly given to length in the Plymouth.

TYPES OF THE PRESENT DAY

Since completing the ideals for the Standard and the worded description, preference has been shown for the grand specimens that have exhibited length as well as other values in the breed, and a truly elegant type has appeared in the best show rooms.

The outline of Owen Farm's wonderful \$500 White cock, three times first at New York, will be recognized in illustration 7. This cock exhibits such length of back as at first appearance makes him look short on limb; however, he is fully as high on leg as the standard ideal of 1903. He is also very large and deep and broad in body, all the way from front to rear.

The outline of 1907 Plymouth Rock cockerel shows that the present type of the Barred variety can also exhibit equal length in body and back with the White Rock when fashion demands.

BREADTH IMPORTANT ALSO

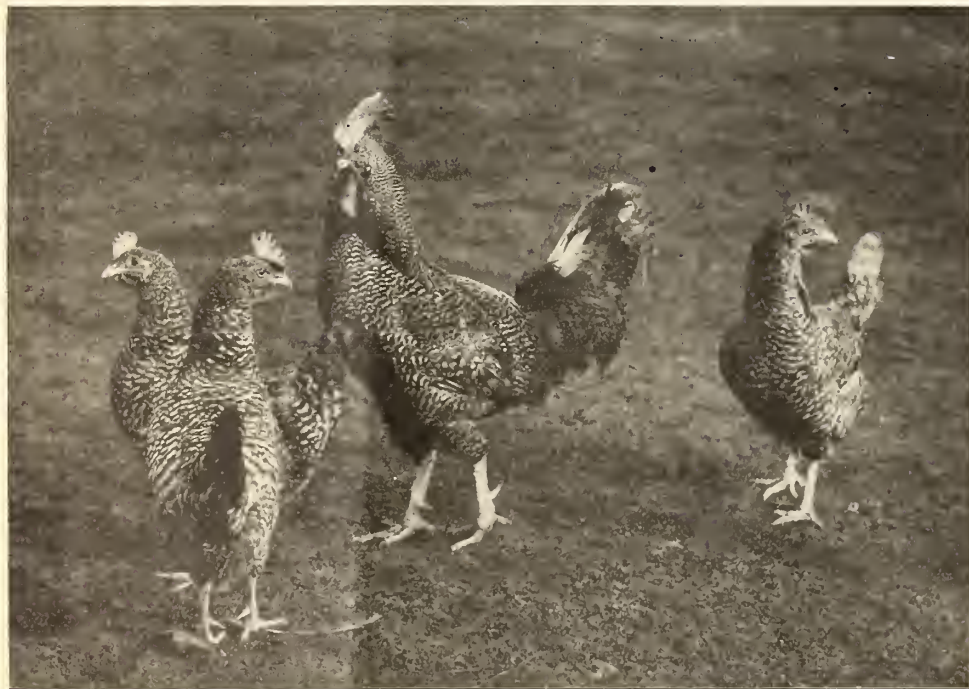
While emphasizing the length of back it will not do to overlook the great value of the bird's breadth. Every

Plymouth Rock should be broad, all the way from front of breast to rear of rump and the broad breast, wide structure of hip bones, wide standing hocks, as well as feet, and broad back, saddle and wide base of tail will emphasize these show pens.

When the Standard reads "rather long, broad, deep, full," it means just about all the substance you can pack into it. "Moderately deep" for breast never kept a progressive breeder from getting his stock just as truly deep in keel, as he could breed them, and just as fully meated on that deep keel as possible. A grandly developed breast is a valuable acquisition in a contestant for first honors at our first shows, and fanciers are selecting with keenest interest to combine all that is valuable both for show room or the shambles. The accompanying outlines to be seen in 10 will emphasize the difference between present extreme fashions in Wyandotte and Plymouth Rock—the former deep, round and as full-fluffed in body plumage as can be produced and still retain the smooth, unbroken surface—a shape throughout that expresses plumpness.

The latter, an oblong, with full, solid body and keel bone extending well forward, the line of back and cushion reaching the tail in "a gentle incline."

A number of specimens possessing the long back have frequently been produced for many years and have occasionally been shown. They are not a new fashion, but have become now better appreciated and we believe this fashion for long back and body will work out well for the Plymouth Rock and make the ma more valuable fowl.



SCOTCH GRAYS.

Figure 8.—The Scotch Gray fowls of North Britain can perhaps throw some light on the origin of the American Dominique. If this very old race of cuckoo colored chickens are not the ancestors of our early Dominiques, we must confess that we have yet failed to discover them. They are the nearest to the type of our old Dominique of any European race of fowl.—F. L. Sewell.

Plymouth Rocks Under the Standard of 1910

Changes in Standard Type From 1879 to 1910 Illustrated by Composite Outline Sketches. Lower Angle of Tail Carriage Recommended and Adopted. Changes That Were Discussed But Not Approved. Color Descriptions Improved. Comparison of Fashionable Types of Plymouth Rocks, Wyandottes and Rhode Island Reds

By WILLIAM C. DENNY



THE STANDARD for Plymouth Rocks for 1910-1915 which will go into effect November, 1910, will be an improvement on the present Standard of 1904. Changes and additions in the wording of the back, body, tail and comb sections, and new half-tone illustrations are the most important and cover the majority of changes that were adopted.

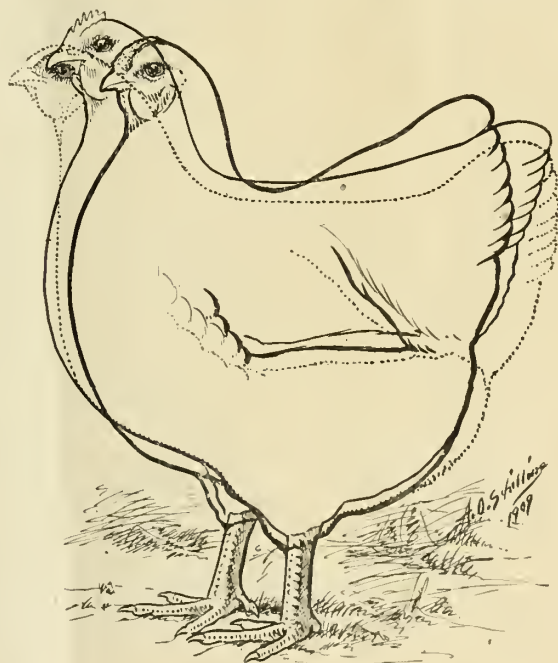
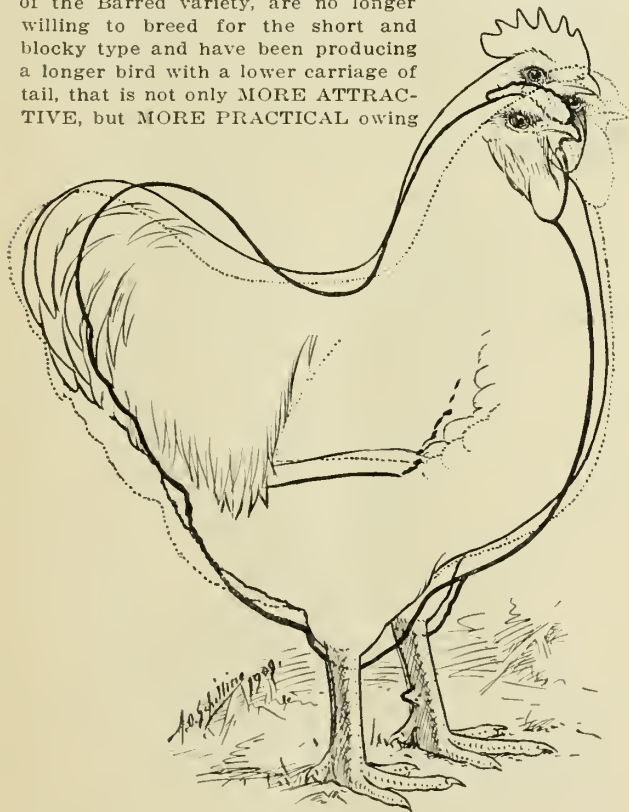
When the last Standard was adopted at Rochester, there was a great deal of discussion over the color description. Very little attention was directed to changing or improving the description of shape. At that time it appeared to be the general opinion that the description of shape was quite correct so far as reading and ideal sketches that appeared in the last Standard could be made, and accordingly the attempt of a few breeders of White Rocks to effect a compromise on "an ideal" with a longer back and body, and a lower carriage of tail, was a failure. Since then breeders of White and Buff Rocks, and many breeders of the Barred variety, are no longer willing to breed for the short and blocky type and have been producing a longer bird with a lower carriage of tail, that is not only MORE ATTRACTIVE, but MORE PRACTICAL owing

to increased possibilities for egg production and value as a market fowl. It is this modern and fashionable type which has been winning "the blue" from the Atlantic to the Pacific, which has, for all time, removed the Plymouth Rock from any possibility of confusion with the Wyandotte as has been the case in the past.

As the shape of back, body, and carriage of tail receive very important consideration in judging Plymouth Rocks, and to a large extent govern shape and style, it will prove interesting to show how the present ideals have been evolved.

Since the Plymouth Rocks were first admitted to the Standard, there has always been a leaning to, and favoring of, specimens with long bodies. This change, very gradual at first, increased rapidly as the longer birds found favor in the show room.

Figures A and B show outlines of the Plymouth Rock shape of back, neck, and carriage of tail at four important periods. The first outline, that of 1879, shows the fashion at that time as indicated by drawings by B. N. Pierce. It would appear that in addition to being short in back, the Plymouth Rock of early days, had a high carried tail and was also short in the body and lacking in depth of body and breast. This is shown in the composite drawings, figures C and D, which show the fashion in 1879 and the ideal for 1910-1915. The 1879 sketch shows the carriage of tail in the male to be 60 degrees



SHAPE IN AMERICAN CLASS COMPARED.

Composite drawing by A. O. Schilling of the 1910-15 or fashionable types of Plymouth Rocks, Wyandottes and Rhode Island Reds, the type that wins in the show rooms and that is found in the yards of successful breeders. Light lines indicate Plymouth Rocks; heavy, solid black lines, Wyandottes; dotted lines, Rhode Island Reds. A study in profiles.—Ed

and that of the female at 55 degrees. At that time the Standard description for both male and female, called for a tail "comparatively small, carried moderately upright." The next outline, that of 1888, shows the Plymouth Rock as they appeared in the first illustrated Standard of 1888 which was shortly afterwards declared obsolete and withdrawn from sale owing to adverse criticisms of the artists' work. To judge by the sketches of the Plymouth Rocks, it would appear that they had gone back, though the neck of the male was apparently more full and the head carried more forward. The angle of the tail had also been changed and reduced from 60 degrees to 55 degrees and the Standard description was changed to "medium length carried moderately upright." The shape and carriage of the neck of the female was also more full and the head carried forward. The angle of the tail was reduced from 55 degrees to 47 degrees. Whatever tendency this would have towards apparently increasing the length of the back was lost because of the appearance of a well defined cushion. These sketches were said to be hardly representative of the best birds at that time, but it is not difficult to believe that females

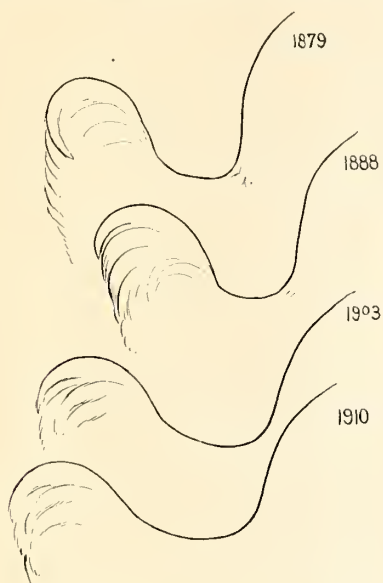


Figure A.—Study of development of male tails in Plymouth Rocks, 1879-1910.

did not possess well defined cushions, for this objectionable feature has been stamped in their progeny, and even now it is not uncommon to see females with this fault. The tendency of the Plymouth Rock to possess a cushion and be somewhat loose feathered and have feathers on legs, which were more frequently found in early days than at the present time, tends to confirm the opinion advanced by some that the Black Java of early days, credited as being one of the progenitors of the Plymouth Rock, was of the same family as the Black Cochins of today.

Favoring Plymouth Rocks with well defined cushions by breeders or judges is always unwise and should be strongly discouraged as it brings the Wyandotte and Plymouth Rock types closer together.

Between 1888 and 1903 the elongation of the bird continued. The male had a longer body and a still lower carriage of the head, but as the body continued to gain in depth, the male was a trifle taller than the earlier types. The Standard wording for carriage of tail remained the same as in 1888, but it will be noticed that the sketches of winning specimens in the leading shows, were illustrated with a lower carriage. The type for females also continued to gain length and depth in body and the tendency to develop a cushion was eliminated.

The question of the carriage of tail is one on which breeders of the Barred and White varieties are unable to agree. Those who were present at the meeting at Rochester will remember the discussion on this subject which came up again, and was the principal point of debate at the Niagara Falls meeting in August, 1909.

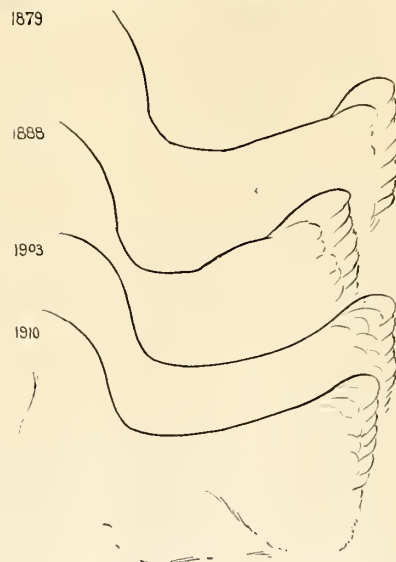


Figure B.—Study of development of female tails in Plymouth Rocks, 1879-1910.

White Plymouth Rock breeders are "out and out" for, and have long favored the longer backs and bodies, and the lower carried tail, while the Barred Rock breeders appear more conservative about making the radical changes that the breeders of the Whites favor. The breeders of Buffs have been following not far behind the type advocated for the White variety and it is this type that wins in the show room and that Barred Rock breeders and judges favor, when they can secure it with the color that they are striving to produce.

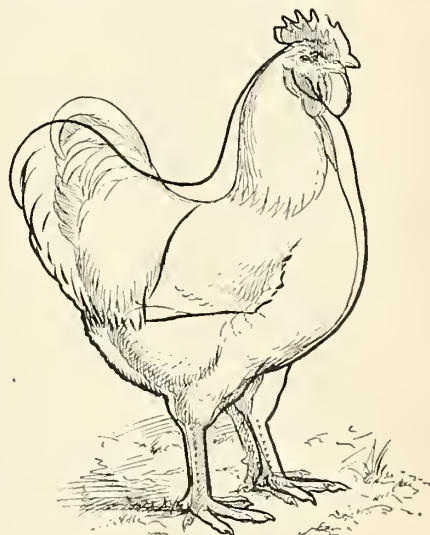


Figure C.—Study of Plymouth Rock male shape. Composite drawing showing the fashionable types of 1879 and 1910. Heavy black outline indicates 1910 type.

To U. R. Fishel, Hope, Indiana, belongs much of the credit for the changes and sentiment favoring longer bodies and lower carried tails. Ten or more years ago, when Mr. Fishel began to illustrate his advertisements and printed matter with birds showing the long backs, long bodies and low carried tails, rival breeders criticised

Mr. Fishel's judgment saying that the type he favored belonged to the Java more than to the Plymouth Rock. Mr. Fishel persisted in breeding this type of birds which has helped in changing the fashion of the winning Plymouth Rocks of today.

ANGLE OF PLYMOUTH ROCK TAIL

Our criticism of the description of the Standard for 1910 would be, that it is behind and does not describe the best Plymouth Rocks of today; those that are winning in the leading show rooms and that are most highly prized by breeders. When the tail of male is carried at an angle of 45 degrees, and of female at 35 degrees, it is too high and there is not the desired appearance of length in back or body. Figure E illustrates this point. Note the dotted line, which shows what the 1910 Standard will call for, while the black line illustrates carriage of tail in relation to back which the White Rock breeders tried to have adopted. If the Association would agree to approve and adopt the carriage of the male tail at 40 degrees instead of 45 degrees as shown by the dotted line or 35 degrees as shown by the black line; and the female tail at 30 degrees instead of 40 degrees as shown by the dotted line, we believe it would be nearer what the "rank and file" of breeders and judges want and like to see. The objection advanced by the Barred Rock breeders that 35 degrees for carriage of tail of male and 30 degrees for the carriage of tail of female was too low, because it conforms with the lines of the Rhode Island Red, is not well founded, in our opinion, as is readily shown in the composite drawing of the Plymouth Rock, Rhode Island Red and Wyandotte male and female shape shown on page 71.

The scale of points for the American class, which includes all varieties of Plymouth Rocks, as recommended by the Revision Committee, was adopted without discussion. It pro-

vides 56 points for shape, 40 for color and 4 for condition. The criticism that can be advanced against this apportionment is, there is no distinction made in the valuation for color between the solid and parti-colored varieties. Claims and statements to the

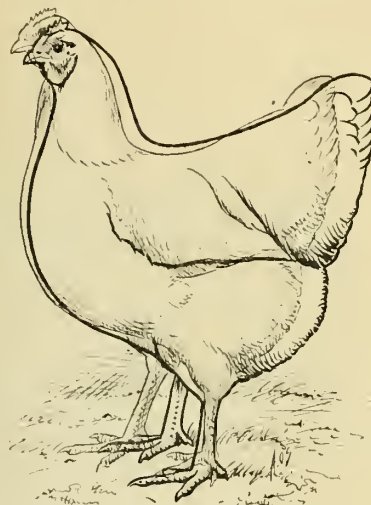


Figure D.—Study of Plymouth Rock Female shape. Composite drawing showing the fashionable types of 1879 and 1910. Heavy black outline indicates 1910 type.

contrary, it cannot be disputed, that it is more difficult to produce sharply defined, parallel, barring as demanded for Barred Plymouth Rocks by the Standard, than it is to produce a pure white bird. The best evidence of this is the very large number of specimens of the White Rocks that can be found near perfection in color, and the smaller number of the Barred variety of the kind that expert breeders and judges are striving for.

Because of the difficulty in approximating perfection

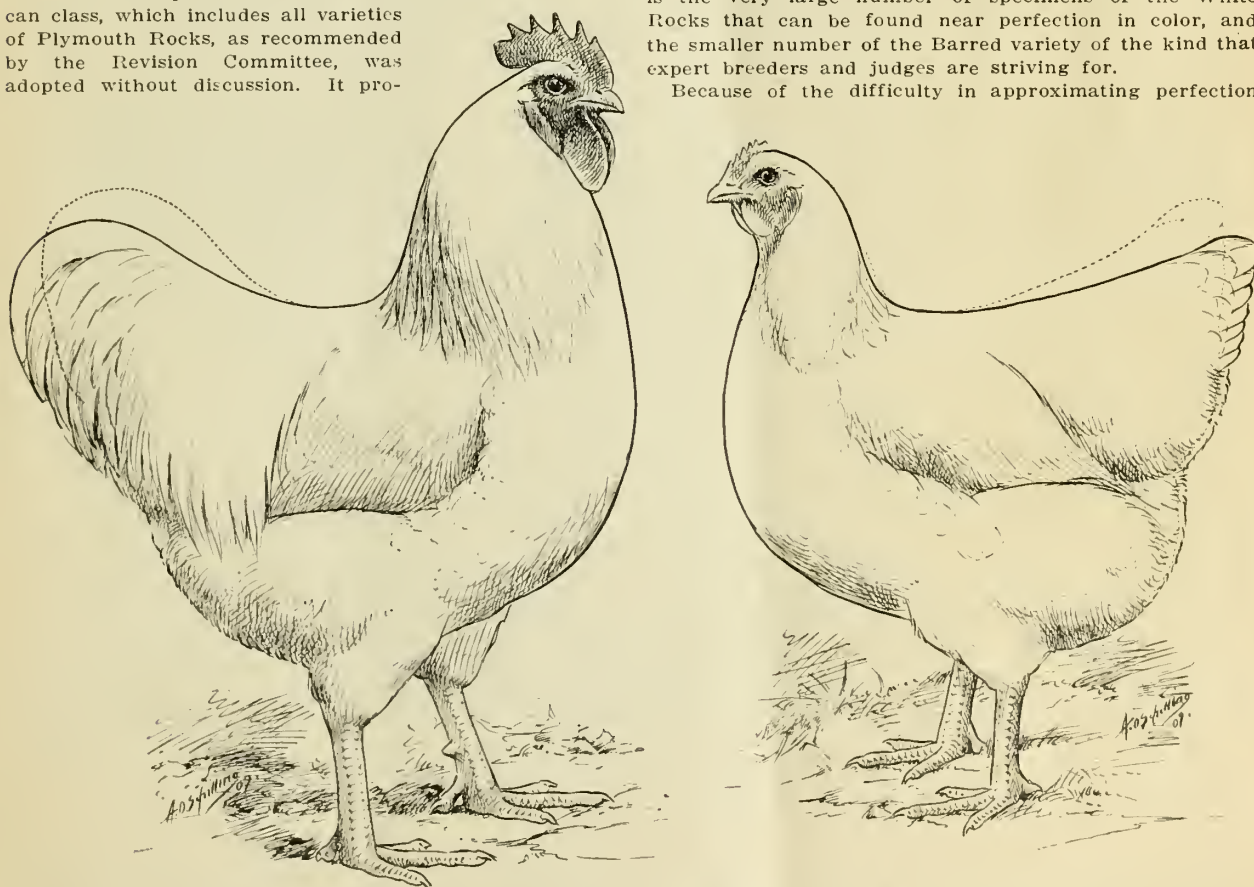


Figure E.—Profile study of Plymouth Rock tails. The dotted lines show what the 1910 Standard calls for, a male tail carried at 45 degrees and a female tail carried at 40 degrees. The solid black line shows the style which White Rock breeders tried to have adopted, a winning type in the show room; angle for male tail 35 degrees, female tail 30 degrees.—Ed.

in the markings and shade of color in parti-colored and buff varieties, it would seem that it would be better to have a different scale of points for each variety, or all varieties of the same color belonging to the same class, instead of each breed.

IMPORTANCE OF "CONDITION"

The number of points allotted to condition remains the same and this may well be criticised. Condition is one of the strongest qualifications that can be possessed by any bird that enters into strong competition. No matter how excellent shape and color may be, if the specimen has not been properly "groomed" and is not in the best of health, its chances of winning are materially lessened. Condition is of great importance and should be allotted as many points as any other item in the scale of points. It is so valued by the best judges and breeders at our leading shows today.

The recommendation in "the majority report" of Revision Committee, to abolish all disqualifications from all breeds did not find the favor it was expected to receive. The general sentiment seemed to be that it would be "opening up the gates" to unscrupulous dealers in Standard-bred poultry, and take away one of the safeguards adopted to protect the beginner, something that no one who has the interest of the industry at heart would favor. Instead of adopting the committee's report, the members **RESTORED ALL THE PRESENT DISQUALIFICATIONS**, and in some cases made additions to the disqualifications in the present Standard.

The Standard for 1904 provides that "any feather or feathers on shanks, feet or toes or unmistakable indications of feathers having been plucked" shall disqualify. Owing to prolonged discussion between exhibitors and judges as to the real difference between feathers, stubs and down, this clause was amended to include the words "stubs and down."

REDUCED WEIGHT OF PULLET

Requests made by prominent breeders of Barred and Buff Rocks, caused the Revision Committee to recommend that the weight for all Plymouth Rock pullets be reduced from $6\frac{1}{2}$ lbs to 6 lbs. It was claimed that the Plymouth Rock pullet is not in the best show condition when weighing more than 6 lbs.,—that after that time she is ready to lay and, as a consequence, loses the trim appearance expected and required of a pullet in the show room. Furthermore, that though she begins to lay soon after she weighs 6 lbs., her weight does not increase and she does not reach maturity for a considerable period thereafter. This really means that between the time she matures as a pullet and becomes a hen she puts on $\frac{1}{2}$ lb. instead of a pound.

A comparison was made with the weight of the Plymouth Rock males, the cockerel being $1\frac{1}{2}$ lbs. below the Standard weight for cock birds, and it was decided to make the same difference in the Standard weight for females. It will not prove detrimental to the variety or discriminate against those breeders who can make their birds' weight more than the new Standard calls for, as the rule provides that "when young birds tie in their score, and both are Standard weight or above, the heavier bird shall win."

SHAPE OF MALE

Description of comb, was changed to read: rather small instead of medium size. Authorities on Plymouth Rocks believe that a "rather small comb" is preferable to one of medium size or moderately large. The new description of back of the male is a decided improvement, "rather long, flat at shoulders, broad its entire length, carried nearly horizontal from neck to saddle where there is a slight concave sweep to tail," expresses what we desire in back of male Plymouth Rocks as nicely as it can be done

with words. Changing from 50 degrees to 45 degrees is the only change in the word description of tail.

The description of body and fluff was considerably improved by adding the sentence "connecting with breast so as to make no break in the outline." It has been uncommon to find Plymouth Rocks which were flat in breast and which showed a decided angle where these two sections join. (See figure F.) In a typical specimen there should be no break in the lines, which should be well rounded.

SHAPE OF FEMALE

In the shape of female, comb remains the same as the present Standard. The words "medium in length" were added to the description of the neck. There was considerable discussion as to the proper wording of the description for back, and the following was finally adopted: "rather long, broad its entire length, flat at shoulders, **RISE WITH A SLIGHTLY CONCAVED INCLINE TO TAIL.**" The Revision Committee recommended rising with



Figure F.—Plump, well-rounded breast recommended for Plymouth Rocks is shown in upper sketch. The lower outline shows a faulty breast.

a "GENTLE INCLINE" to tail, but a number of the Plymouth Rock breeders objected and insisted that the words "slightly concaved" be included, as the point was advanced that a gentle incline would be interpreted as being a straight line, and that these lines did not belong to the Plymouth Rock family, but to the Rhode Island Reds and Javas. The same change was made in the description of body and fluff as in males. No change was made in description of tail, and the present reading calling for "a carriage at an angle of 40 degrees" will be the same in the new Standard.

COLOR CHANGES

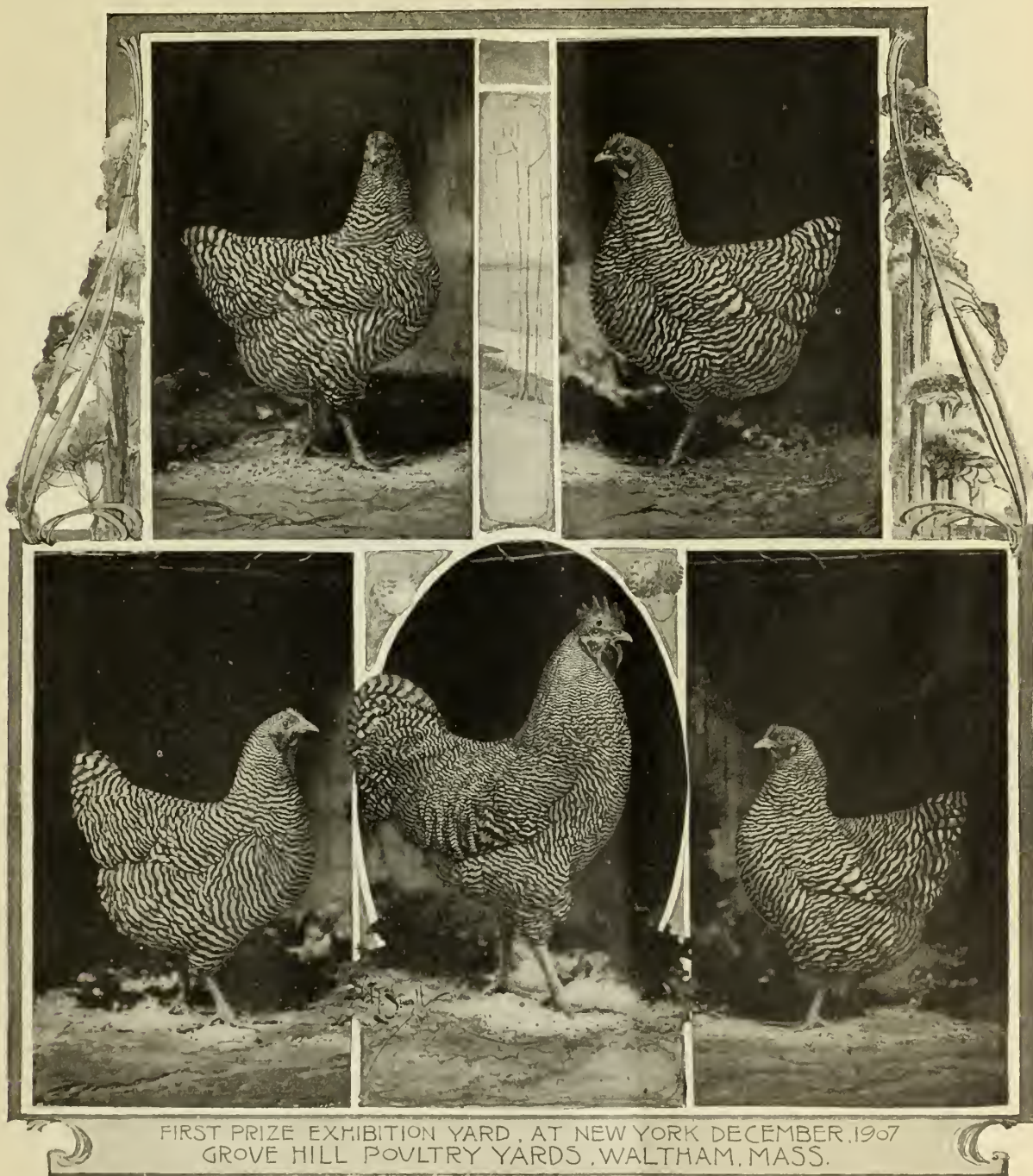
The color of legs and toes for all Plymouth Rocks, excepting the Silver Penciled was amended to read: "yellow, red showing at outside back of scales not considered a defect in males," but would be in females. Red pigment indicates stamina and vigor, two important points to consider in selecting exhibition and breeding stock.

Color for Barred Rocks remains unchanged with the following exception: each feather on female must end with "a narrow dark tip" instead of "narrow dark tips preferred" as required by the present Standard. The color of plumage in all white birds was changed to read "web, fluff and quills of feathers in all sections pure white." There is no material change in the description of color

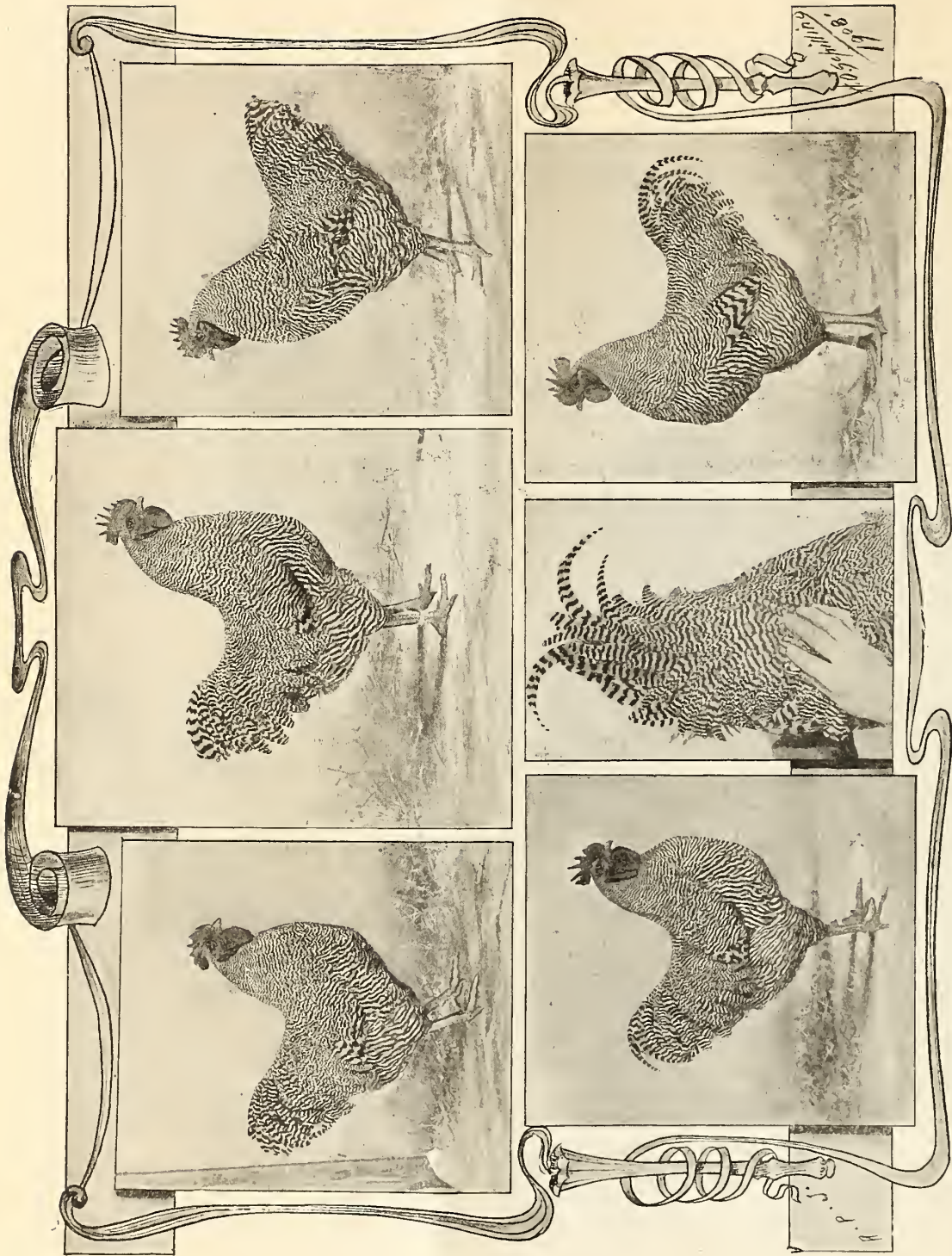
for Buff Plymouth Rocks. Some of the qualifying sentences were dropped and are the only changes that will be found.

Silver Penciled Plymouth Rocks are the only new variety of this breed that will be included in the new Standard. This variety was admitted to the Standard at Auburn, but under the Constitution, had to wait until the Standard for 1910 was adopted before it could be included. An excellent description for color was presented by the Silver Penciled Plymouth Rock Club and adopted

with very few changes. It requires the "steel grey" instead of "grey" as the present Standard does in describing the Dark Brahma. Any shade of slate under-color is allowed instead of "black and slate" as in the present Standard. The elimination of black is undoubtedly an improvement as lighter under-color is bound to assist in clearing the surface color of females and making it very bright and attractive. The rusty or brownish grey found in the Dark Brahma and Penciled varieties is undoubtedly due to trying to produce dark under-color.



Grove Hill Poultry Yards enjoy an enviable reputation as breeders of Barred Plymouth Rocks, that have won the highest honors at America's leading shows for many years past. What has impressed close observers most, however, is the uniformity in type of the Grove Hill males and females. This applies not only to the shape but to the color markings. Manager Arthur C. Smith has been equally successful in producing both exhibition cockerels and pullets that have won blue ribbons in the warmest competitions. The males and females of this strain possess a strong family individuality, showing most careful selection of the breeding stock. The first prize pen of birds illustrated above gives a very fair idea of the type and color markings of the Grove Hill Strain of Barred Plymouth Rocks, the sharp, regular and even barring of the feathers being a characteristic feature of the latter.



"This group of five prize winning male birds illustrates the excellent quality of Barred Plymouth Rocks bred by Bradley Bros., Lee, Mass. The male bird in the center of the top row is their famous "World's Champion of 1906," winner of First Prize and Sweepstakes Special at the New York Show, 1906, nearly five hundred Barred Rocks competing. The birds on either side of him are his brothers, all three having the same sire. They have proved to be exceptionally valuable breeders of choicest exhibition cockerels. The lower left hand bird was a New York Winner as a cock and his son won as cockerel. Each sold at the highest price Bradley Bros. ever received for a single bird up to that time. Besides these winners there were in this family two other First New York Males and one Second. The bird in the lower right hand corner, "World's Champion's Nephew," is the son of the bird pictured just above him. His mother was daughter of the First New York Cockerel, 1904. This is truly a remarkable record and prove that "blood will tell." The lower middle photograph shows the tail and back of the male to the right. This strong barring to the skin is characteristic of this family.—A. O. Schilling.

CHAPTER III.

Barred Plymouth Rock Plumage

Precision of Color and Barring Achieved After Forty Years' Breeding. Original Markings and the Present Day Perfection Illustrated

By FRANKLANE L. SEWELL

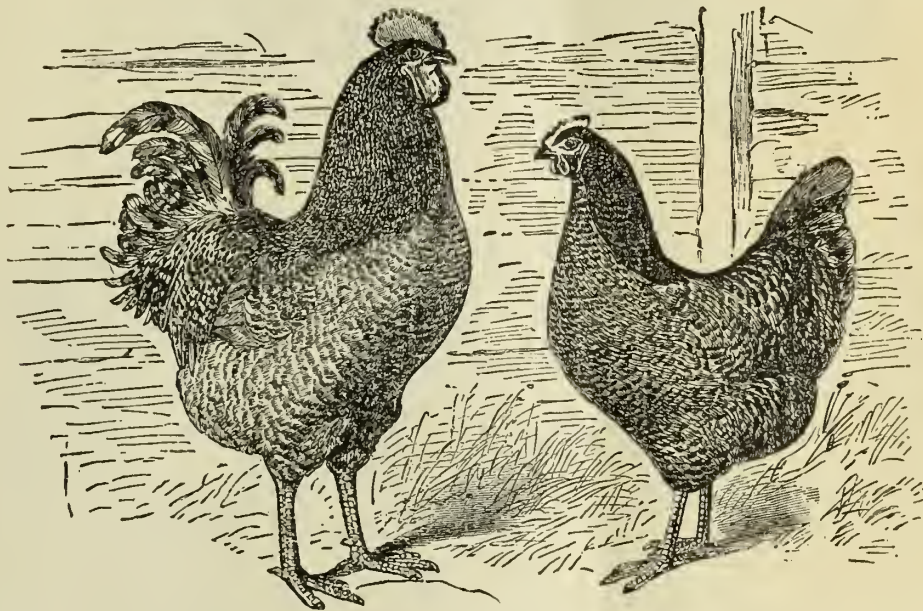


THE FIRST illustration we ever saw of the Plymouth Rock that seemed to show credible characteristics, appeared in Poultry World of 1873. A reproduction of this early plate accompanies this article (Plate No. 1). It is not difficult in carelessly mated yards of fowls, today, to find birds very nearly approaching the picture of this pair of early progenitors of this now famous race.

The attempt by the artist here was plainly to reproduce the effect of the irregularly distributed tips and bands of lighter and darker color, of the old styled cuckoo marking,

FIRST STANDARD DESCRIPTION OF COLOR FOR PLYMOUTH ROCKS

The first Standard, issued by the American Poultry Association, 1874, gives this description for the plumage of the Plymouth Rock: "The cock, color of plumage—Dark or light steel gray all over, and free from splashes of red, black, or white feathers in any part of the plumage." "The hen, plumage—Dark or steel, mottled black and white; black and white bar well defined across each feather; evenly marked all over as possible up to bill." In the foregoing description from the first "Standard of Excellence," there



No. 1.—Plymouth Rocks in 1873, from old wood cut appearing in Poultry World, July 1873. These were claimed to have originated from a cross of "Dominique" with "Black Java" hens. The so-called "Black Java" of New England at that time was, according to good authority, not the Black Java as recognized today, but the large black fowls that were later accepted by the Standard makers as "Black Cochins."

usually a dull light gray with darker markings across and at the ends of the feathers.

The different sections of these birds, it is seen, were not equally colored, as fanciers strive to breed them now, but plainly, by this picture, we see that their necks were very much darker than the remaining plumage; the top color in this picture is darker than the breast and lower portions of the body plumage; the markings growing coarser on the larger feathers toward the rear of the birds, gives the latter sections darker tone of general color.

The Dominique, one of the older races, from which the Plymouth Rocks were originally produced, were, about the time of the Plymouth Rock's origin, a much more evenly colored bird than these early Plymouth Rocks appear, if the old wood cut published by Fanciers' Journal, 1876, is a fair representation (Plate No. 2).

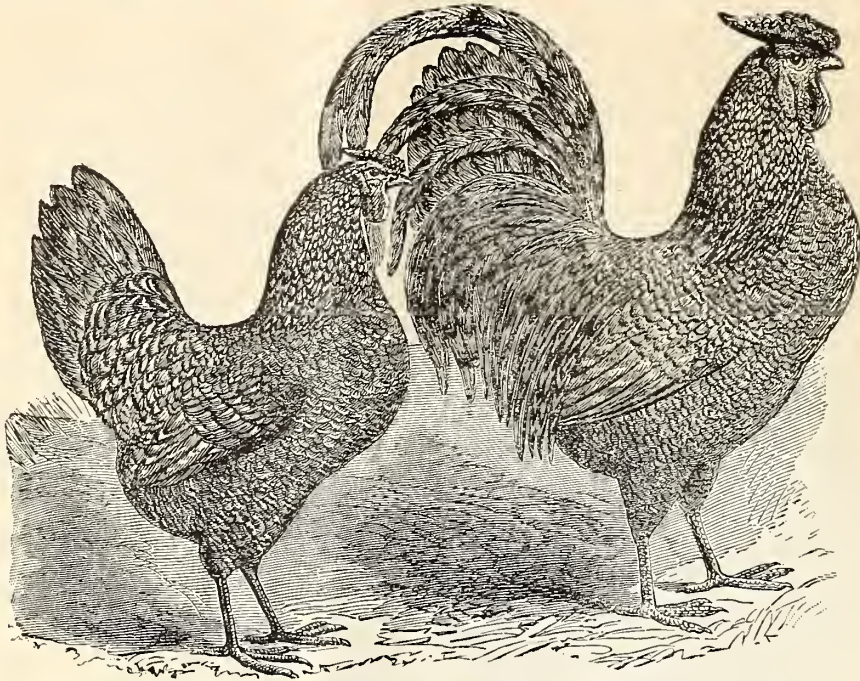
is an evident difference in the color effect then possessed by the male and female. The accompanying picture of this pair, of 1873, shows the existence of a good attempt to illustrate at that time a male and female quite well matched in general color, the female only slightly the darker. The "Standard of Excellence" of 1874 recognizes the well-known tendency in the breed for the male and female of the same strain to differ in shades of color.

The popular preference among breeders, when exhibiting the Plymouth Rock, has long been to have them match as nearly as possible in the show pen, and this has been the cause of a great deal of experimenting and careful breeding in the attempt to produce a line or family of Barred Plymouth Rocks from which both males and females could be bred that would reasonably match when shown together in pairs, as was the practice for a number of years, or in

pens as they are now exhibited in classes of New York, Boston, and a number of other important shows.

After many attempts at breeding the Barred Plymouth Rock male and female to a reasonably uniform shade that would match and finding that the most beautifully marked specimens could not be produced of both sexes from the

The very bluish tinge in the plumage was not uncommon during the 80's, and was perhaps, while the birds were in fresh plumage, easier to obtain when less value was placed upon strong contrasts and accuracy of marking, as at that time blending in the tones of lighter and darker bars was admired when it secured the "true blue" color.



No. 2.—Dominiques as they appeared in the early 70's.

same mating, fanciers who aim at the most perfect exhibition birds have adopted the practice of developing two quite distinct blood lines, or families, of the same strain, one family selected to have very dark, strongly barred plumage, especially successful in giving the desired show color for males; the other family bred entirely with a view to perfecting those qualities of color that exhibit best in the female.

It would be interesting perhaps to read the story by those who kept actual records of the attempts of breeders to produce from one line of Barred Plymouth Rocks males dark enough and females light enough to suit the fashion of matching in the show pen. Some of these experiences appeared in the *Reliable Poultry Journal* about twelve years ago, and in the first issue of the *Plymouth Rock Book*, published in 1897.

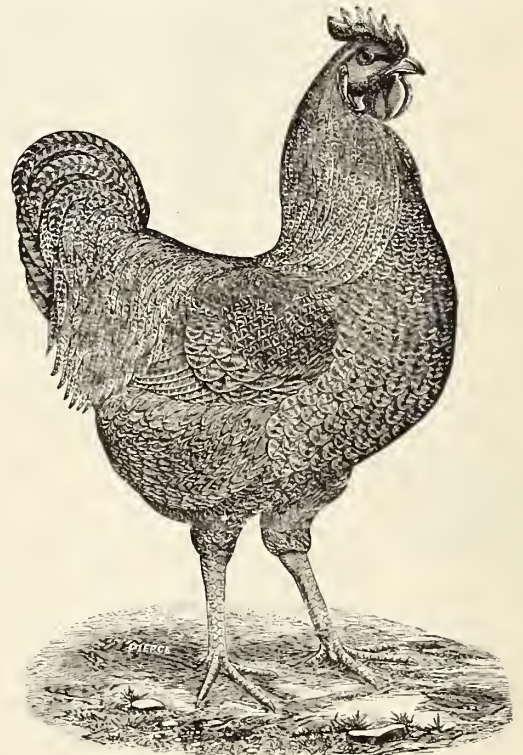
Among the main requirements in color for the breed at that time, regular barring evenly distributed throughout the plumage of all sections, and the "true blue color" marked the winners of premier honors. These characteristics were frequently exhibited in the 80's.

Perhaps the "true blue color" received more than its share of honors during the latter part of the 80's in some sections of the country, while precise, regular barring progressed better in other localities.

In Plate No. 3, a fair example is reproduced of a cockerel, very deficient in character of barring, but in the bluish effect, while the plumage was fresh and bright, the tone of general color was no doubt very pleasing. The whole effect is very gray, decidedly lacking in what would at this date (1908) be termed the 'snappy' effect. The darker bars were only a few tones deeper than the lighter gray of the ground color. In the fluff of this cockerel it will be seen that scarce a trace of barring was attempted by the artist, who was an expert on poultry. It is plainly evident that in this illustration the "true blue color" was uppermost in the mind of the engraver, who no doubt carried out the truth in depicting the specimen.

UNDERCOLOR

At the time of publishing the first Standard, 1874, no thought of the barring in undercolor or fluffy section of



No. 3.—Reproduction of wood cut by B. N. Pierce of First Prize Plymouth Rock Cockerel at Indianapolis, 1886. Illustrating the idea of "true blue color" of that time. The bluish gray effect evidently took precedence over plumage with well accentuated bars.

the feather was intimated, and the barring only described for the female as "Black and white bar well defined across each feather; evenly marked all over as possible up to bill."

In the 80's, the progress made in the color of plumage demanded the more exacting description of "Color grayish



No. 4.—"Fineness" of barring, when clear, well defined and marked straight across the feather, has proven very pleasing in effect and been highly valued by fanciers of the Barred Plymouth Rock.

white, each feather regularly crossed with parallel bars of blue-black, giving the effect of a bluish tinged plumage, and this color should be the same throughout the plumage."

It will be noted in these revisions of 1883 and 1888 that no reference is made to undercolor unless "color same

days, were handled over and their plumage turned backwards in a way that surely added no comfort to the fine specimens. One old breeder, whose birds were suffering the ordeal exacted by a very critical judge, was heard to exclaim, "Why don't you skin 'em so you can see 'em from the inside?" However, this seemingly extreme exaction of color ideal had the good effect of culling out many weak or unsound colored birds and adding extra value to the truly worthy strains.

The Standard description developed from these exacting times read: "The barring must positively show the entire length of the feathers in all sections where they are mostly composed of down."

FINENESS OF BARRING

Barring, in greater or less degrees of "fineness", has been a quality of considerable discussion for twenty years or more with the Plymouth Rock. To specimens that have possessed "fineness" with strength, accuracy and sharpness of contrast in the barring, unusual value has been attached. The overlapping of these multitudinous bars, the lighter over the darker, gains a very bluish effect when the plumage is fresh and bright. However, unless the markings are very regular and accurately placed, there is a mingling of pattern that is often less pleasing than plumage of regular barring, more coarsely marked.

The cockerel in figure No. 4 is one of Mr. E. B. Thompson's winners at New York a few seasons past. The barring will be seen to be very fine. The markings are very regular and straight across, and the effect a delightful "true blue color." Separate feathers from this specimen counted an unusual number of accurately spaced bars.

A female showing unusual "fineness" of barring was the first winner at Boston in 1901 (Plate No. 5). There was considerable comment on the "fineness" of barring of this hen's plumage; it might, however, be noticed that in size the feathers are somewhat small, and the lighter bars are wider than the darker bars.



No. 5.—A clear colored, finely barred hen, on which the separate feathers are remarkably well marked. The plumage is, however, composed of feathers somewhat small, so that the general effect is not rendered as effective as on plumage of broader feathers. No. 6.—Very nearly approaching the Standard requirement of "The light and dark bars to be of nearly equal width." * * "Feathers having narrow dark tips are preferred."

throughout the plumage" might be interpreted to indicate the complete feathers.

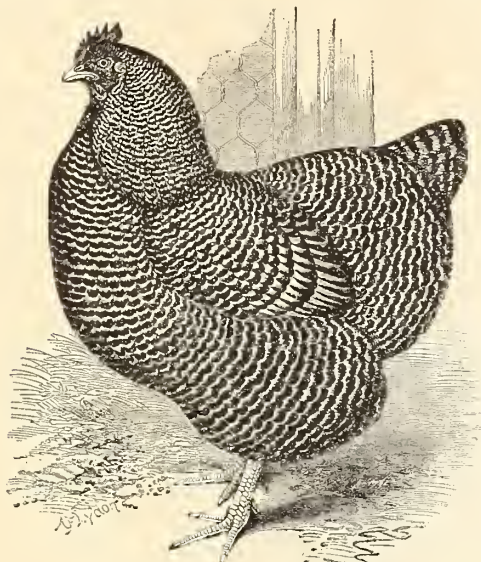
This fashion grew to be a demand in the shows of the latter 80's and 90's, when so much stress was placed upon undercolor that some judges appeared to give it more value than surface barring, and the birds, during show

REGULARITY IN SPACING OF THE BARS A STANDARD REQUIREMENT

The present Standard of Perfection, in regard to the comparative spacing of the bars, reads: "The lighter and the darker bars to be of nearly equal width."

The size of the feathers, we have noticed, plays quite an

important part in displaying marking of any pattern to good advantage; as an example showing a pullet possessing plumage of a size on which barred pattern of marking appears to advantage, we refer to No. 6. This bird not only has about the required Standard width of barring, but



No. 7.—An English champion cup winner from Feathered World, 1892, on which the dark tips of the plumage render the strongest color effect, the next lower bar scarcely appearing. Many dark English bred females approach this appearance.

the smooth surface and firm texture of plumage lends effect to the strong contrasting bars, which would make an indifferent showing on a fowl of plumage with a loose, fluffy surface. This is a quality we have noted in connection with a number of Mr. Charles H. Welles' winning specimens that is of important value. The particular pullet under consideration was in his winning pen that won the Japanese special vase in January, 1907.

THE RINGY EFFECT

Early in the 90's particular attention was called to the very pleasing effect of continuous band of color caused by the straight bars of the best bred birds matching in such a way as to produce the effect of rings of color around the body or across portions of sections. Mr. E. B. Thompson's "Ringoletta" and Mr. Wm. Ellery Bright's "Century" were among the first to show this effect strongly.

The attempt to produce this ringy effect upon as many sections as possible, since it became the fashion, has proven not only fascinating to breeder and fancier, but is establishing a trade mark upon the highest standard-bred Exhibition Barred Plymouth Rocks that are of more than common value for fine show birds. In fact, no other class of fowls in the Great New York Show attracts more attention to specimens successfully bred in color points (when found on standard shaped birds) than do the Barred Plymouth Rocks.

About ten years ago, a breeder who has been very successful as a specialty breeder of fine pullets, remarked to me that he did not care particularly to see the ringy effect run in long stripes around the bird "like a Zebra, but liked to see the rings matched in little groups." It is an indication that reveals this same breeder's evident progress in this line that he lately explained to me his fancy for show birds whose "ringy bars clearly mark the modeling of the sections."

**SOUND COLORED TIPS; MUST BE STRAIGHT ACROSS
IN PATTERN IF THE RINGY BARRED EFFECT
IS TO BE PRODUCED**

It is quite remarkable with all the exaction and unsparing culling to establish strains that were sound in under-color and "barred to the skin," that no one ever advertised

his strain as "barred to the tip," and that no mention of a bar at the tip ever appeared in the Standard until the publication of the 1903 revision. This particular point of finish, which marks beauty or expresses weakness in the bird's coloring, was for many years a feature very much overlooked during the 80's and early 90's. Many birds at that time used to appear in the leading shows, when the fad for very light females was at its height, that had very light, even gray tips, that were awarded prizes. These latter presented what now is termed a "washed out effect." It has been several years since we have seen one of this order winning at New York or other important shows.

Our British friends, across the water, while they have never been so exacting about the color points in the under plumage, have, for a number of years, attached a special value to sound tips on the plumage of their Barred Plymouths. The sketch by Mr. A. F. Lydon of Mr. R. Butterfield's cup winner appearing in Feathered World, 1892, can be called up to testify to this quality which our fanciers have of late years succeeded in gaining on a plumage, which, with this addition, is well nigh approaching perfection, especially when examined in detail (Illustration No. 7).

GENERAL EFFECT OF PARAMOUNT VALUE

In studying the general effect as viewed over the whole body of the bird, which is really of great importance in the show specimen, the fancier who undertakes to breed strength of color in the tips of his Barred Plymouth Rocks' plumage, will observe that too strong color on the tips can spoil the beautiful ringy effect, as it appears to be the bars and not the tips, that mark the truest rings of color, as they match side by side over surface of the bird's feathers.

Very strong or dark laced tips, which we have seen, appear to emphasize the rounded ends of the feathers, rend-



No. 8.—A matured hen of a successful cockerel breeding line, with very dark and sharply defined bars marked nearly straight across the feathers, giving many sections the "ringy effect." Very rarely is a hen so dark as this one produced, whose light and dark bars are sharply defined and free from any smoky cast of color.

ering a laced effect on the bird; hence it will be noted that the perfect tip should not be too large and that its outer end should not follow the form of the feathers backward in a crescent shape, but should trace its color straight across, like the second and third bars. If the tip and the bars that appear on the surface extend straight and parallel across the feathers, the effect will approach the truest rings.

Since 1900 the preference for dark males has been growing more and more noticeable. The necessary explanation of this has been successfully met by the Barred Plymouth Rock Club through offering at New York Show, for the last three years, a special prize for the best pen of one male and four females mated to produce the best exhibition colored males; a special they have also offered for the best pen mated to produce best females of exhibition color. The appearance of these pens at New York has done the breed and the breeders a great deal of good, and has been helpful in answering numerous puzzling questions that always came from purchasers who needed enlightenment on how to mate Barred Plymouth Rocks for exhibition color, and who felt that the fanciers were hiding something. Through these properly mated pens such desirable explanation is readily illustrated, and the novice gain confidence and valuable help.

One of the most attractive females that has ever appeared at New York Show was the grand hen that won in Mr. E. B. Thompson's pen mated for producing exhibition

came round with the assurance that no other color attracted quicker buyers or better prices. The last time we passed through Faneuil Hall Market of Boston, we attempted to learn whether any other variety was gaining over the old favorite. "The Light Brahma and White Plymouth Rocks are selling well as large roasters, but nothing for young chickens seems to suit my best customers so well as the Barred Plymouth Rock." This answer is representative of the popular American preference when selecting by plumage in the market.

Very few showrooms there are in America whose entry books do not show the Barred Plymouth Rock to be the largest class and this was true last winter, December, 1907, at the great Madison Square Garden Poultry Exhibition where there were in competitive classes 319 specimens of the Barred variety, and where the greatest progress in the breed ever exhibited was shown.

PROGRESS OF FORTY YEARS

Progress that has actually been accomplished since the



No. 1.—A, B, C, D and E. Feathers from a Dominique female. The Dominique was used on the male side in producing the original Plymouth Rock fowl. These specimen feathers were from a bird of "an old strain bred in Philadelphia for many years," and show in contrast with the almost ideal Barred Plymouth Rock feather to the right of the plate, the progress made in a little over forty years of breeding.

males, in 1906. (Illustration 8). The bars on the plumage of this female were very strong in color and just a trifle wider than the light bars; were regularly arranged and very straight across the feathers.

AN OLD COLOR

Numerous breeds have developed the color and marking somewhat resembling the pattern affected by the Barred Plymouth Rocks. Of the oldest, the Scotch Gray is the best known. We saw Chittagongs in America so marked, about twenty years ago, that were said to be of a very old strain. Game, Dorking and Leghorn we have also seen exhibited in England showing this "cuckoo" marking. The Malines is an old race of Belgium that has the "cuckoo" plumage. The Braekel and Campine, also the Penciled Hamburg, possess transverse bars of markings, but of hue and composition entirely different. There are also a few other breeds of fowls upon which the "cuckoo" marking has been reproduced, so we are brought to the fact that "cuckoo" or barred marking is not uncommon.

POPULARITY OF COLOR ON LEADING MARKETS

In Chicago and western markets I have repeatedly tested poultry dealers to try if some other variety would not sell as well as the Barred Rock, but invariably they

first intermingling of bloods of the hawk colored "Dominique" male and the so-called "Black Java" or Cochin hens started the original Plymouth Rocks as illustrated in feather plate, No. 1. All but the last feather to the right of this group are from a fowl which W. H. Davenport of Massachusetts has in his possession and which he describes as:—"From an old strain (of Dominiques) bred in Philadelphia for many years. They run very uniform, male and female all inclined to this smoky hue." The tone of the color in the marking across these five Dominique feathers is very light grayish fawn. There is a decided brownish cast in the color which fades gradually, and it will be noticed, on some of the blotchy markings, the dark shades almost imperceptibly into the light ground color of the feather. For example, on the third marking from the tip on B and D. Considering this character of blended color and the lack, or shapelessness of design in what has been of later years termed "bars," the breeder appreciates this indifferent marking and weakness in color of the Dominique.

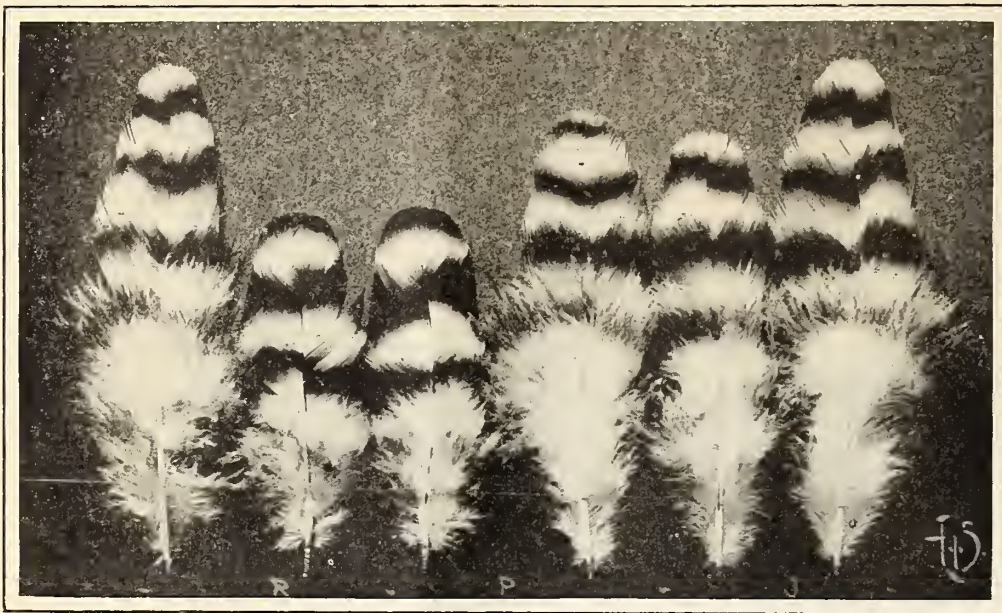
DEFECTS IN DOMINIQUE PLUMAGE DIFFICULT TO BREED OUT

Mr. W. H. Davenport, who kindly furnished feathers from a number of examples of Dominiques, says:—"These

are from one of many, which incline to a 'patchy,' dappled surface, all this same hue." The tone of color in the feathers of this group is nearer the shade observed in Plymouth Rocks of today, although still possessing some of the fawn, or brownish cast, especially on the side of the bars toward the root of the feather.

a characteristic which breeders of Barred Plymouth Rocks have constantly selected and bred to change to an abrupt contrast of color and straightness of bars.

The two plates, 1 and 2, illustrate plumage still found on the Dominique of today, that shows a number of the most persistent natural tendencies of color as they drift and fix



No. 2.—All the feathers in this plate were from a female Dominique. "One of many which incline to 'patchy,' dappled surface, all the same hue." Illustrating a number of the irregularities of this type of plumage inherited and frequently reverted to, in the strains of the Barred Plymouth Rocks not carefully bred. Plymouth Rocks with such irregularities as the above, have no value for breeding exhibition fowls for present day competition.

These specimens carry much more color than the Dominique feathers in plate 1, but nearly the same irregularities are found and another feature presents itself, viz:—a tendency to white tips and very light undercolor in the longer plumes. Mr. Davenport also sent feathers which would be considered quite perfect for present day Dominiques. However, there is in them the decided tendency to blend the two colors at the edges of the bars, especially on the side of the dark bar towards the tip end. This feature with the nature of the bar curving, not extending straight across the feather, has always been

the pigments in this peculiar pattern, while the student of Barred Plymouth Rocks endeavors to select and produce with his best stock the uniformly exact barring which expert judges and standard makers demand.

At the right hand end of Plate 1 is a fine example of the result after forty odd years of progress in Barred Plymouth Rock color. This feather is regularly barred with strong well defined bands from tip to root and has almost straight bars in the portion of feather that shows on the surface. The tone of color presents that delicate bluish cast while retaining sharpness of definition often termed "snappy." The contrast of this almost ideal feather, with those from the Dominique grouped with it, tells of more progress in the Barred Plymouth Rock than pages of word description.

Constant though progress appears, and although still better results crown the efforts of the expert breeder, the laws of heredity and reversion so frequently assert themselves in surprising opposites from what is expected, that when breeding distantly related strains, only the very finest and truest bred procurable can be counted upon for successful results. Even with stock on both sides tracing back through long lines of exhibition strains, reversion to characteristics possessed very early in the history of the breed crop out; one of these defects that a breeder of long experience assured us, was most persistent in repeating itself, is illustrated in A. and B., the two left-hand feathers in Plate 3. These two upper wing covert feathers next to wing-bar, show spotted or "spangled" marking, caused by failure of the dark color to extend to the extreme edge of the web. The broken, incompleteness of barring on a bird so marked could not be expected to prove a success in breeding the ringy effect, which requires the bars to extend straight and strong to the very edge.

It would not be advisable to breed with a bird in which any considerable part of its plumage showed such a pro-



No. 3.—A and B. From Plymouth Rock male, showing reversion to very early type of marking found in the Dominique. Compare with A and B, the C and D in plate 1: where very little strength of color shows in A and B, the marking of C and D extends toward the edge of the web. C and D are very strong in color, where A and B show lack of color in the second and third bar from the tip.

nounced deficiency, as its tendency in producing would in all probability be to revert far back into the earlier and undesirable patterns of markings that are at the present considered worthless for fancy breeding or show stock.

CORRECTING A DEFECT

In case a breeder discovers his strain which may excel



No. 4.—Ideal, parallel, narrow, equal barred and dark tipped Plymouth Rock feather, contrasted with two faulty, coarse, irregularly marked feathers, C and E.

otherwise, weakening in color at the edge of feathers inclining towards the defect represented, he would find valuable an introduction to his strain from a stock where this quality is especially strong, slightly overdone to a degree. In Plate 3, C. and D. are too strongly barred

feathers from a female, showing just the desired requirement. They are especially strong in the second and third bar from the tip, the very bars where the color is wanted to help the deficiency and succeed in obtaining the ringy effect. Besides being strong in surface color the barring of the undercolor of these two feathers expresses what breeders have spent years to obtain. At the present time the possession of complete barring from tip to skin is pretty well fixed in all of the best American strains. No breeder of experience in America today, would expect to win under a well reputed judge if he were to exhibit before him a Plymouth Rock that was not distinctly marked underneath as well as precisely barred on the surface.

C. and D. are from a yearling bred and owned by Gardner & Dunning of Auburn, N. Y. This hen as a pullet won second prize at Madison Square Garden 1906, in a class of eighty-seven pullets. She won the ten dollar special for best shaped female in the show of two hundred and eighty-seven females. She was also daughter of second hen at the same show. The color of the bars on her plumage is about as dark blue black as has been found desirable to obtain.

THE DEFECT OF BROWNISH CAST IN THE COLOR

One of the very worst faults and perhaps a characteristic most frequently seen in poorly bred Plymouth Rocks is the brownish shade. Some ill-bred birds very soon after moulting if not showing this color at the start, are very soon influenced by the sun and atmosphere and rapidly change from bad to worse, to what fanciers recognize as about the cheapest hue in Plymouth Rock plumage. The high bred Barred Plymouth Rock of exhibition quality even after being exposed considerably to the weather and late in the season, should still hold reasonably well to the color of its new coat. Individuals very greatly differ in the degree of fastness or permanency of their color. One whose plumage will keep through a whole summer showing very little tendency to fade or tan to brownish hue, is estimated of much greater value than one on which the color is spoiled in a short time and on which show color can be preserved only by constant care and protection, making it more expensive to keep in ex-

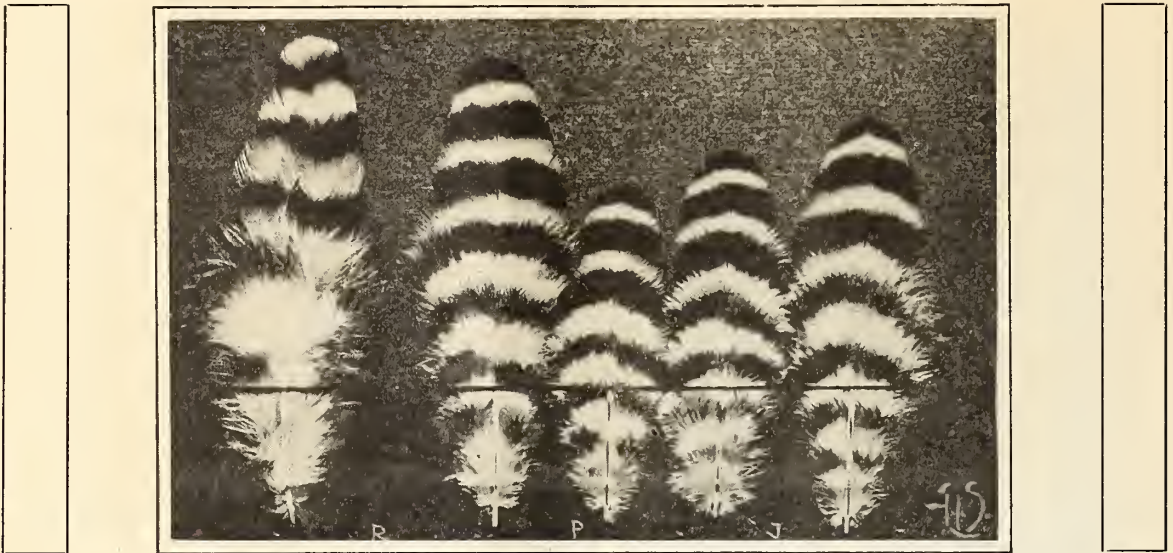


No. 5—A is a very coarse, loosely webbed feather, with color of the dark bars on side toward tip, running into the light bars, as if smutched. B has bars not well balanced and not matching at quill in undercolor. C showing much the same defects of "smutched" color of bars as in A, with the failure of light undercolor and also the fault of gray instead of dark tip (the poorest colored feather in the group). D an almost ideal barred feather, from pullet of cockerel breeding line, from E. B. Thompson, Amenia, N. Y., whose strain represents over twenty years of breeding from as nearly perfect exhibition specimens as it was possible to obtain. E, very coarse bars, broken at shaft, uneven and too light in undercolor. F, bars here approach regularity, but are not straight enough across the feather.

hibition condition. However, for the strongest competition, of course, the best is worth preserving.

The "Steel Gray" of the first "Standard of Excellence" possibly meant to convey something of the idea of the effect of broken steel, which has a bluish gray effect

In contrast with this "narrow" barring which the Standard describes, are the extremely coarse barred feathers, A. and E. Stock producing such plumage is many generations away from exhibition quality to compete with the best approach to Standard marking. The feathering of the



No. 6.—A Dominique feather. Gray tipped, compared with dark tipped feathers from 1st winning New York, 1902, hen, owned by Chas. H. Welles, Stratford, Conn. The Dominique feather A also shows irregular, unbalanced barring and light incompletely barred undercolor. B, C, D, E, well barred with strong under barring.

not unlike the general tone of the plumage of the Barred Plymouth Rock.

The Standard of Excellence, revision of 1886, describes the same effect as our present issue of 1903. It reads:—"Body color, grayish-white, each feather regularly crossed with bars of blue-black, giving the effect of a bluish tinged plumage."

The latest edition expresses the present demand for color of the plumage as follows:

"Grayish-white, each feather crossed by regular, narrow, parallel, sharply-defined, dark bars that stop short of positive black; free from shafting, brownish tinge or metallic sheen; the light and dark bars to be of nearly equal width and to extend throughout the length of the feathers in all sections of the fowl (on females, feathers having narrow, dark tips are preferred), the combination of overlapping feathers giving the plumage a bluish appearance."

WHAT THE STANDARD OF PERFECTION DESCRIBES

We have idealized a very nearly perfect, finely barred female feather, in an attempt to interpret the present description of what is demanded by the Standard.

DEFECTIVE BARRING COMPARED TO THE IDEAL

"Grayish-white" in describing the light bars, does not mean irregular blending of the dark bars into the light bars. Too often, as in the Plates IV. and V., especially in A. C. and E., the bars on the side toward the tip end extend the black color out into the fiber of the web, as if the color would not stand washing and had run out, or was smutched irregularly into the light bars more or less, running out considerably farther on some of the fibers of the web than on others making what is sometimes called "zig-zag edging" to the bars.

Particular fanciers who breed the show birds that win the best awards and obtain the highest prices, select for barring that is "snappy" that which shades abruptly from the dark into the light, as on D. of Plate 5. In this New York winner, Mr. E. B. Thompson of Amenia, N. Y., produced a female of exhibition male producing line, "snappy" as well as of very fine regular barring.

American breeds should not be coarse as in the Asiatics. It will be seen that there is a noticeable fineness of the quill as well as of the feather of D. when compared to A. and E. Coarse plumage of loose texture does not as easily excel in fine color pattern as firm, close plumage.

PARALLEL BARS SHOULD BE AS STRAIGHT AS POSSIBLE

While the Standard fails to say anything about the straightness of the bars, it does describe them as "parallel".

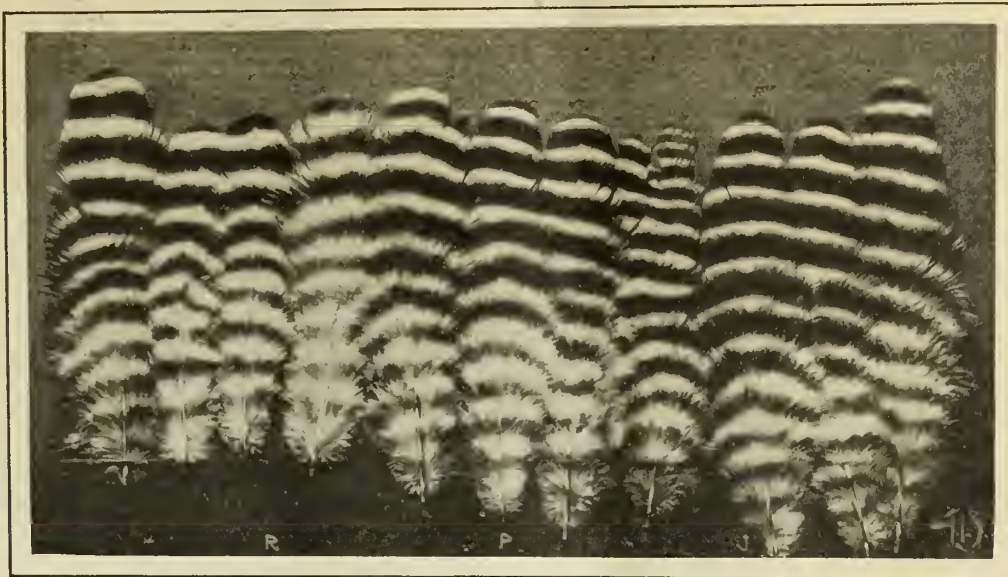


No. 7.—Illustrating strength of color and matching by regular spacing of the bars in different sections.

This feature combined with their being as straight as possible gives the most attractive effect and helps a great deal toward the feathers matching their bars side by side in rings, round the body of the bird. On the Penciled Ham-

failure in quite evenly colored birds, that otherwise were attractive but did not prove "ringy" on account of the V. shape marking.

In Plate 2, feather C., next bar to the tip, also on feather

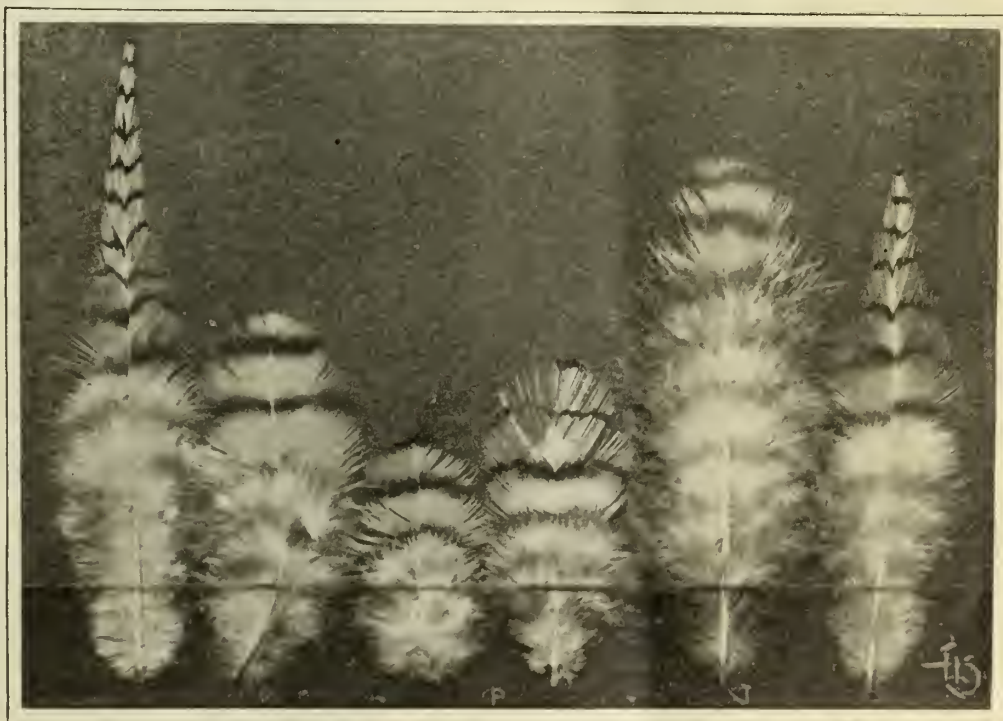


No. 8.—Slight irregularity of markings found over the plumage of a remarkably fine barred female

burg, the bars have been bred to the straightest pattern of any variety of fowls and they are famous for their "ringy effect".

In feather F. of Plate 5, the bars are nearly parallel, but we have seen birds so marked where the bars bent back-

B., second bar from the tip, the bars on the opposite sides of the quill do not match but break at the quill. This is an old persistent habit of the "cuckoo" or Dominique color, which in some poorly bred specimens repeats itself nearly all over the bird. With all the good specimens to be found



No. 9.—Feathers from a Chas. H. Latham pullet bred cock.

ward and also males in which the bars of the surface color bent forward towards the tip, that were severely criticised by experts. Arthur C. Smith of Grove Hill Poultry Yards, has often called our attention in the showrooms to this

at our best breeders' yards at the present, this blemish, when found throughout the plumage stamps the individual as a very cheap bird. While we are mentioning the common faults and cheapness of this irregularity of marking,



No. 10.—Feathers from a nearly ideal colored exhibition female of the “Ringlet” barred kind that are making a name for progress in color of Barred Plymouth Rocks.

we would not wish to convey to the mind of any novice the idea that perfectly barred specimens are obtainable. The first prize New York hen, shown December, 1907, by Chas. H. Welles, probably came as near to perfection in color as has ever been shown in America, and an offer even of \$1000 did not tempt him to part with her, but he preferred rather to keep her for breeding.

best strains have shown it in a degree for a number of years. We fancy that the fad for light colored pullets was partly responsible for the light tipped plumaged birds

THE SHAFT MUST BE THE SAME COLOR AS THE BAR

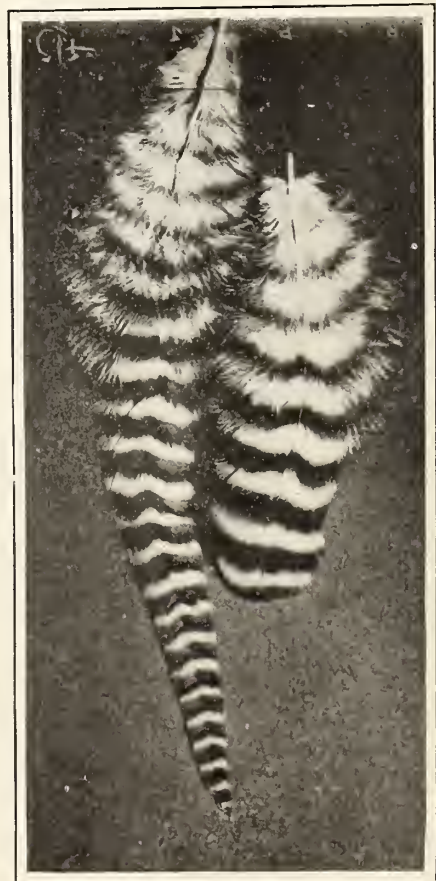
The “shaft” or quill must be the same color as the bar through which it passes. The Standard says “free from shafting”. This means free from light colored quill passing through the dark bars. The shaft occasionally shows dark color in the light bar, but this is less seldom the case with this breed and is little thought of, as an over-colored feather is seldom regarded so faulty as one lacking in color. Even a black, blotched feather is not considered so serious a blemish as one blotched with white. The over colored blood is more easily corrected than blood that lacks, as blood that lacks pigment cannot be impressed with pattern in its color so readily.

THE COLOR OF THE TIP

Until the latest revision of the Standard of Perfection, no special mention was made of color of tip in either Dominiques, Plymouth Rocks, or Dominique Leghorns. This point, which has so much to do with the general effect and surface color, has for several years past received considerable attention and at our best shows has been critically judged. Strange to say, in the latest Standard no mention of preference for this finishing touch on males is made; only is it described for females. Truly it would be a poor mating that did not match in this respect.

Feather C., in Plate 5, shows a light or gray tipped feather. The “dappled” effect resulting from weakness in color is no longer considered in keeping with exhibition color. For many years back, gray tips in wing flights or secondaries have been scored as a serious defect.

Plate 6 contrasts an irregular, unevenly marked, light undercolored and gray tipped Dominique feather with feathers from the Charles H. Welles hen that won 1st at New York in 1902. It will be seen by these four, well tipped, regularly barred specimen feathers, that this fashion for dark tips, now favored by the Standard and experts, is not a new development. In fact, many of the



No. 11.—Feathers from hen and cockerel of breeding pen winning club special at Madison Square Garden for producing best exhibition cockerels.

being tolerated so long in the showrooms, and that matching when shown in pens was partly accomplished by showing very light pullets. We believe the favor given dark males in the showrooms of late years is preferable to awarding prizes to weak colored, light tipped females.

The achievement of breeding the Barred Rock with all sections equally matching in general strength of color, has



No. 12. Detail study of a remarkable wing, with very rare straight barring on shoulder and flat of wing. Winner of first and sweepstakes at New York, 1906.

long been sought after. Neck, shoulders and saddle of males are often lighter than other sections of the bird. The head and neck of the female, also the wing coverts, are often darker than its remaining sections. In arranging the group of feathers in Plate 7, we have placed three saddle, three neck, one breast and one lesser sickle of the same bird side by side to show how nearly bars of the same width and spacing throughout the several sections have been bred. It will be noted also that dark tips and strong, distinct barring, regularly mark the entire length of the saddles and hackles. Feathers in this plate are from cock bred by E. B. Thompson.



No. 13. Wing of a Montauk cockerel bred by E. L. Miles, showing finely matched, strong markings and ringy effect with undercolor of wing bar uncovered.

In Plate 8, are illustrated the slight irregularities of marking found over the plumage of a remarkably fine pullet or cockerel breeding line. It has been truly said, that no two flowers nor two blades of grass, to the trained eye, ever grew exactly alike. So it is with the plumage of

fowls. We may adapt and agree upon ideals just in advance of our hobbies and what our selective matings seem sure of producing, but the exact ideal does not appear to result in the course of natural plans nor has exact form or color in animal life ever become indefinitely fixed by nature, much less by man's artificially selective breeding, but so far as beauty and practical worth are concerned types of fowls with their mutable tendencies may be bred reasonably close to an ideal.

The terms "cockerel bred pullet" and "pullet bred cockerel," "cockerel breeding pen," and the like, for some time were little understood except by those in close touch with the breeding of barred and penciled varieties of fowls. The American Barred Plymouth Rock Club decided a few years ago, that the so-called "mysteries" of breeding show specimens of this fowl should be made plainer by exhibitions at Madison Square Garden Poultry Show, of correctly matched breeding pens for the production of both males and also pens for the production of fashionable females and regularly offer special prize ribbons on these very interesting competitions.

The exhibition colored females, colored with equally divided bars (as near as possible) as in Plate 10, are mated to cockerels marked with narrow bars as in Plate 9.



No. 14. Wing of a female of the "Lee Belle" line. Bred by Bradley Brothers.

The hackle, breast, wing, fluff and saddle feathers in this plate 9, furnished by Charles H. Latham of Lancaster, Mass., were from the cockerel in his display pen of January, 1907, at New York Show. Mr. Latham's winnings on pullets for several seasons past and of the Barred Plymouth Rock Club's special for best pullet breeding pen at New York show last winter attract special interest to the style of marking in males he has used in their production.

In plate 10, which is the nearest to ideal of any group we have received, the feathers were furnished by Mr. E. B. Thompson, who was chiefly instrumental in making popular the Plymouth Rock with "ringlet" barring. The straight, regular, evenly divided bars on feathers from this New York winning female well illustrate the progress he has made in this direction.

IMPORTANCE OF CORRECT MARKINGS IN WINGS

Correct detail in the markings of the large feathers of the wing flights has ever been considered by expert fanciers of utmost importance.

Wings that show well barred flight feathers are very rarely found on birds of poor undercolor or of irregular marking in other sections. In fact, they almost invariably indicate the final work of otherwise well marked specimens. Sound colored wings as a rule are accompanied by

plumage of tail that is well barred to the roots. Not many years ago, this was a rare attainment in males two or more years old.

It has become a favorite practice for fanciers when advertising their Barred Plymouth Rocks to illustrate the quality of their breeding stock, by the assuring pose of the bird with one or both wings spread. It is decidedly uncommon to find the coverts and flight markings forming as they have, on a very few choice specimens, clear bands of color, with bars matching across the entire wing.

The feather from the female shown in plate 11, comes from nearly the same section of body as the beautiful male covert. The tip will be observed, as rather square across and the two outer bars that show on the surface color, are straight enough to help their color to match well with adjoining feathers.

the back, but few ever examine it. The ringy matching of the bars on this wing is quite unique. The coverts match magnificently in their marking and the clear, open light bars well illustrate how our best breeders have perfected this section which has so long troubled foreign fanciers with the smoky cast. Quite a number of years ago in this country, this was a prevailing fault with this style of plumage. It is a fact, this fault is no longer shown at all by breeders in America and is looked upon here as only a mongrel relic.

Plate 14 shows a well marked wing of a female with exceptionally sound colored bars, quite well matched and unusually correct markings on tips of flights and secondaries. It is one of the "Lee Belle" line. This wing also shows nice matching on the wing bar.

One of the commonest faults of many otherwise well



No. 15.—A shows a wing weak in color, showing too light toward roots of flights, gray tips on secondaries and primaries; B, sound colored wing, regularly barred secondaries, flights well tipped and barred. Very much better than the average winning specimens. Undercolor of fluff on thighs exposed showing barring full length even in this section. Dark tips and strong contrasting barring over entire plumage. Chas. H. Welles' first prize hen, New York, 1902.

In Plate 12, Bradley Bros., of Lee, Mass., submit a detail photograph of their famous Champion Winning New York cockerel of 1906, a bird of remarkably regular and straight "snappy" barring. This cockerel exhibited a very rare character of marking on the flat of wings, a straight-across pattern of barring which some cockerels show in chick plumage but retain only until about five months of age. It was truly remarkable that this individual should have preserved this valued form of marking on his winter coat, and even as a three year old cock it is very straight, regularly barred and strong in marking. It is the nearest to standard in the section mentioned and one of the best all round in color.

One of the best illustrations, that also shows undercolor of the wing bar, is plate 13, illustrating a Montauk cockerel bred by E. L. Miles. This is the first wing I have ever seen photographed in this way, with the undercolor of the wing bar uncovered. It is a section, no doubt, of equal importance as the base of the flights or the undercolor of

marked light colored hens is weak color in wing flights. See A, the left hand hen of the plate 15. Near the base of the flights and in the gray tips of both flights and secondaries this failure in color is observed.

A number of years ago, it would no doubt have been said, that it was not natural to breed straight, regular barring over the entire body of the Plymouth Rock. Much has been achieved in this direction. Markings that a few years ago were designed as ideals have been passed by as common. Wings and tail plumage in this breed today seldom approach ideal straightness of barring, but good specimens are becoming more common and the approach to perfection is nearer attainment.

What has been popularly considered America's best all round fowl, with perhaps the most difficult ideal, to produce in its plumage, has proven our breeders equal to the task of its improvement. The Plymouth Rock, today, is vastly better than it ever was, as a practical, productive breed for utility purposes.

Barred Plymouth Rock Color

A Discussion of the Problems Involved in Breeding the Barred Variety. Natural Variation of Color. Defects in the Standard Description. Traditions and Delusions.

By F. W. PROCTER



It is a serious fault with our Standard of Perfection that the subject of color receives such scant attention. Its Glossary, from A to Z, breathes not a word about color. Although, in this connection, words form but an imperfect medium of expression, an effort should be made to define the color terms used in the description of varieties. A chromatic plate has been advocated, but the introduction of color printing meets with several objections. Under the conditions inseparable from the process of printing the copies will vary in color tone. Also the changes incident to age may set in at once, varying with the different inks and according to climate and exposure. Again, the color plate would present a single shade of the color under consideration; whereas the fancy should not restrict permissible color thus narrowly. There is a growing demand for some recognized system of color—an exhaustive work, based upon the fundamental facts of optics and animal physiology of color, elaborated into a comprehensive treatise in which the several colors of plumage may be classified according to the pigmentary deposits. This paper aims to supply that want, so far as relates to the breed and varieties under discussion.

From my earliest connection with poultry breeding, I felt a strong attraction toward an unusual phase of the fancy—the study of color problems in the abstract. It was some years before I became an active breeder of Plymouth Rocks; and then, curiously enough, because of interest aroused by their peculiar and difficult color problems. There was at that time—as well as before and since—a wrangle over the proper description of the Barred plumage. It was indisputably gray, and just as undeniably appeared to be blue. The longer I pondered over the matter, the firmer grew my conviction that the apparent blueness was an optical effect. The instinct of research possessed me, and I was soon considering the merits of the proposition—a conjecture originating with myself—that the blueness of sky, water, distant objects and all blue effects is a confusion of the senses, arising from a complete blending of the principles of light and darkness (white and black); in which neutral toned objects appear, in the degree of their blending, first, simply as white and black; second, as gray; and finally as blue. I consulted the recognized authorities upon physics, but only to find the science of optics as relates to color to be lacking in any adequate explanation; that certain natural phenomena of light and the atmosphere had been but imperfectly conceived; and that the psychological side of the question, which should enable us to comprehend the why and how of the color sense, remained an unsolved problem. Under these conditions, and fortified with the belief that the remaining colors of the spectrum would in turn give up their secret, I took up this line of research in earnest, with the ultimate satisfaction of being able to announce a new and complete theory of color. As a full explanation of the color problems of our fowls is impossible without reference to the optical phase of color, I here briefly outline this theory as comprehensively as it is possible to condense a volume into the limits of a page.

THE CALORIC THEORY OF COLOR

If a prism is held where the sun's rays may pass through it, the resulting display of colors, known as the solar

spectrum, shows that sunlight is made up of a series of distinct qualities of light.

Light is composed of minute undulations or waves in some imperceptible medium which we term the ether. The different colors are attended by a corresponding difference in the rapidity or wave length of their undulations—so that the blue rays at one end of the spectrum are one-half more rapid than those at the red end. It has long been assumed that the sense of color is in some way effected by an insensible measurement of these varying undulations. But this supposition stops short of a complete explanation in that it supplies no motive for the existence of color sight. Also, comparative wave-length accounts for a difference in degree only, while the distinct colors, red and blue, differ in kind, being opposite in their nature. There is another natural fact of the solar spectrum, discovered more than a century ago, but curiously enough never heretofore connected logically with color production—that the different parts of the spectrum differ fundamentally as to solar heat contained. Most of the sun's heat is contained in rays too long to effect our sensation of sight—the ultra-red. But of our visible spectrum, by far the greater proportion of contained heat lies in the red, from which point it gradually diminishes through orange, yellow and green, to a complete disappearance where the blue field begins. Now the inference is quite natural, and amply sustained by evidence which space forbids presenting here, that the capacity to distinguish light as to its wave-length has to do with the amount of heat contained primarily in the wave-lengths pertaining to the several colors. In way of argument, I will instance a single point, viz., the intuitive connection between color and the sensations of heat and cold. Artists instinctively group colors and composite effects as warm or cold, according as the prevailing tones are red or blue. This Caloric theory—which name is self-explaining—disposes of the current classification of light into three primary sources—red, yellow, blue, and substitutes a single primary color—red. With red as the positive element of color, blue becomes its complementary negative, and the intervening hues are graduations, green being the blended effect of the positive and negative elements, conjointly occupying the same field.

ATMOSPHERIC PHENOMENA

Our sight of objects is effected mainly by diffused light. This is solar light differentiated by the transparent quality of the atmosphere. By its nearness and vast volume, the atmosphere exerts such an illuminating power as to largely supersede the direct solar ray as a medium of sight and color. It is a common error to confuse diffused light with solar light and to regard them as identical in quality. To properly explain the phenomena of color it is essential to observe the distinct natures of light from these two sources. The neutral quality of atmospheric light passes through various gradations of shade as seen when occasional clouds upon a sunny day appear white, descending the luminous scale until nearly black is reached when the sky is overcast. The blue sky is the blackness of unlit space seen through white light, the distance allowing of a complete blending of the two tones into blue. When the sky is filled with alternating cloud and sunlit space, the nearer clouds appear gray, and with gradual accession of color as the distance allows of more complete blending, the furthest clouds will rival the sky in blue color. As the sun

drops below the horizon, diffused or neutral light is gradually weakened, the solar ray in its full integrity assumes sway, and objects are seen largely by its reflected light. Nature's daily analysis of the solar light ensues. We have first yellow, and in successive order the spectrum's tones, orange; and then the luminous quality departs, leaving red, which is the sun's true color. Red is the active principle of color—is the only color—and all else is a gradual diffusion of color, varied by blended effects. Yellow is a diffuse and highly illumined red. Blue is diminished illumination minus red. Violet is blue still less illumined. Green is yellow less illumined and with a still more diffused red, technically speaking, or practically, blending of yellow with blue. Purple is the blending of intense blue and red as when the two ends of the spectrum are brought together. Red is the positive or active element: blue, its

have seen, supposes a single active principle of color, comprising red, which is the visual phase of heat; and the remaining colors of the spectrum are successive diminutions of this principle under varying luminous conditions. Nature does not depart from this scheme in producing the colors in animal life, but follows the plan of solar light in every detail. Of the two animal pigments, red—the active—corresponds to the sun's normal color, and black—the passive—to the spectrum's opposite end. We may trace each of the color effects of fowls' plumage to its corresponding hue in the solar spectrum, and logically account for such according to the presence or lack of their deposit of these pigments in varying amounts. The white fowl typifies neutral diffused light, as seen upon a solitary cloud when illumined from all directions, and is the effect of plumage free from all pigmentary deposit, reflecting dif-



FIRST PRIZE PEN OF BARRED PLYMOUTH ROCKS AT THE JAMESTOWN EXPOSITION, 1907.

This pen was composed of specimens which in both color markings and type were close to the Standard Ideals, while in size and stamina they could not be surpassed. The birds in the above pen were bred and exhibited by Pine Top Poultry Farm, Hartwood, New York.

negative, or passive, correlative. Color is primarily a visual perception of heat. The wave-length which in solar light, or from a fire, is accompanied by heat we call red. A similar wave-length from non-heat-bearing sources, as from a red-painted building appears red by suggestion, or the unconscious association of ideas, which no amount of reasoning or the exercise of the will may efface so long as the color sense remains unimpaired.

The remaining phenomena of color are quickly explained. Sight is accomplished by rays of light reflected from the surface of an object, and its color depends upon the comparative length of waves. Certain peculiarities of the surface of bodies as regards wave-lengths govern their color. If all light is absorbed equally, it is black. If all wave-lengths are alike reflected, it is white. In the degree that an object reflects solely the less rapid wave-lengths it appears red.

OPTICAL COLORS REPEATED IN ANIMAL PIGMENTS

When we study the physiology of color as developed by the pigments from which color effects in fowls are derived, we find a striking coincidence. The caloric theory, as we

fused (white) light unchanged. The deep red fowl's plumage is charged with a deposit of the red pigment, and is typical of the deepest red tones after sunset. The buff fowl receives a smaller amount of red pigment, and to the extent of its diminution the white fowl's characteristics are operative—red made more luminous, as in the spectrum—and the buff fowl, accordingly, repeats the golden tone of the sun's color by day. The black fowl, its plumage surcharged with a pigment absorptive of all light typifies the darkness of night. The blue fowl symbolizes the blue sky, its blueness developing according to the degree of blending of the simples black and white.

THE PHYSIOLOGY OF COLOR

The colors displayed by fowls are derived from two principles known as pigments. These are distinct physical substances, which are evolved from the food, conveyed by the blood along with the nutritive principle of growth, and solidifying with its substance become a component part of the feather. These pigments have distinct chemical natures, being differently soluble, which renders impossible any metamorphosis of one into the other, or their actual blending to form a composite color—green.

The nearest approach to this is a visual or optical effect constituting the green sheen of black fowls. Our sight of black plumage, apart from the color tone of the sheen, is of a dual origin. The black pigment absorbs all light—a dead-black effect. The surface of the plumage, however, in the degree of its hardness, reflects light—neutral or colorless light—but carrying the color tone of the black pigment,—a purely deep blue or violet sheen. If the black plumage contains also red pigment unequally distributed, the effect is purple barring; or if the distribution is complete, as in a brassy tinted white male, the composite reflection is, a small proportion of black pigment reflected (blue), a dilute form of red (yellow); and green sheen is the logical sum of these two simples blended.

Color production is effected under the two distinct processes of secretion and deposition. If we consider these two acts as controlled by laws acting independently of the other, we may logically trace and account for the various color phenomena. Starting with the black-red or normal type, and considering in turn the locigal effect of the acts of secretion and deposition being suspended, the several color variations to which the parent type is subject are made clear.

NATURAL VARIATION OF COLOR

If the secretion of black pigment should from any cause (as a hereditary tendency) become suspended, and deposition continue according to inherent habit, the resulting offspring would appear white in the usually black areas, and with undisturbed secretion and deposition as to red, the effect would be the pyle coloration, as we term it. If the breeding of these pyles be long continued, certain natural tendencies would follow; secretion of red would diffuse itself throughout the plumage, thus changing the pyle color into buff. By means of continued selection, the red pigment is developed in a larger degree than the normal, which gives the solid red type of color. The two variations have been brought about, the former through interruption of the black-red's habit of secretion, the latter by modified deposition. In like manner, by suspended secretion of red, the black-red spontaneously becomes a duckwing; and similarly we may account for all the remaining types, the white coloration following the elimination of both pigments. The sexual differentiation as to color, a native attribute of the black-red, is entailed down the line of all colorations, to remain a constant factor in the color problems of all varieties. A truth hitherto overlooked is that the males of the entire gallinaceous race are marked with greater development of red, and females more of the black pigment. Varieties whose color conditions are favorable for observing this law are pyle, buff and red colorations, also the solid black, the males of the latter showing a tendency to red feathers in excess of the females. The brassy tendency of white males is another instance. This fact explains why the Barred Rock female is darker than her mate, and he in turn displays an aptitude to red or brassiness from which she is comparatively exempt. The theory of a black dam in the foundation crosses as a means of accounting for the Barred female's darker color has gained credence in spite of its scientific impossibility. However, in view of the internal evidence borne by the race itself of having been originally a solid black species at a period antedating its black-red form, the black dam legend gains an importance not anticipated—it was the race, which, in its earliest beginnings in bird form, had a black dam, thus imparting the tendency to its sex of all modern varieties. The antecedents of our gallinaceous fowls, in common with other forms of life, had a sea origin, their feathers being originally scales, of which their scale tendencies still borne upon their shanks and toes are a survival. At the period of leaving the water and assuming bird habits, their change of environment called for sustaining pinions in wings and tail as essential for flight. Their changed form of scale covering which ultimately became feathers was gradually extended to the remaining portions of the body, this plumage being charged with the

sole pigment secreted at that period—black. The red pigment was evolved later, originally a male attribute; hence more fully displayed by the male, later to be adopted in lesser proportion, and with differing habit of deposition, by the female. It is this natural color differentiation of the sexes, and not any modern accident, that causes the differing amount of black secretion in the two sexes of the Barred Rock. Indeed, it is apparent that if this trait originated with injudicious crosses, it would be a simple matter to re-originate the breed, making the sexes evenly colored or even the male the darker. The practical phase of this discussion would involve the question as to whether by any manner of breeding this law could be rendered inoperative. There is no evidence that this natural distinctness of the sexes has been or may be reversed.

NATURAL STATUS OF BARRED COLOR

The Barred coloration is a type in which the single pigment, black, enters. Formerly known as "dominique", and "cuckoo" among English breeders, it is supposed never heretofore to have reached the degree of excellence seen upon our modern Plymouth Rocks. However, its present state of development is far from perfection, but better expresses the term "crudeness", both from the lack of a definite ideal and its peculiarly difficult breeding problems. Its logical origin may be stated as a cross between the solid colors black and white, the off-tendencies in breeding being towards those types. If we imagine a male and female, one black, the other white, to be bred, the list of resulting types, besides those of parents, would be: for each parent to dominate some area of the plumage producing a mottled effect; a uniform composite of the parent types (deposit of black diminished, deposition unchanged), resulting in the blue type; and finally the last-named varied by successive intermittent tendencies of pigmentary deposition during the growth of the feather—the barred plumage. This type fixed by breeding is the present color status of the breed, and explains the uncertain results in breeding. If some particular type of barring were to be bred for, defining the number of bars in certain sections, such might in time become inherent; but in the lack of such a fixed pattern of color, Nature continues to produce bars without reference to type. In the absence of such an ideal, the best results naturally follow the breeding of stock closely related, as by that means fewer distinct types of barring are brought in conflict.

COLOR OF THE BARS

With the barred plumage, the tendency of modern improved barring is away from blueness, which is properly becoming an outgrown tradition. Blueness comes from a blending of the light and dark elements; and the recognized ideal of barring is the sharply-defined quality, which comes not only from sharp lines of demarcation between the alternate light and dark bars but from a strong contrast of the color tones. Occasionally we yet see a poorly-bred specimen, its barring "all gone to pieces", which carries us back in memory to the antiquated ideal of forty years ago, in which the bars, varying slightly in their color tone, might correctly be described as blue—blue as the Andalusian's color. The modern barred plumage has made a good swap for something more beautiful, in which the light and dark bars have departed so far in their respective colors, that the light bar has become too light in its individual tone—and the dark bar too dark—to be blue. Its reputed blueness, under favorable conditions, arises in another manner; namely, an optical blending of the contrasting bars; and the lighter bars, being more distinguishable, appear to take on this blue quality. But bring the specimen nearer, and into stronger light, and this confusion of color—blending—ceases, and the bars come out distinctly of their actual color, light gray and dark gray.

BREEDING PROBLEMS

As the color scheme of the two sexes is identical, the chief problem is in relation to the natural difference of color production between them. The male should be

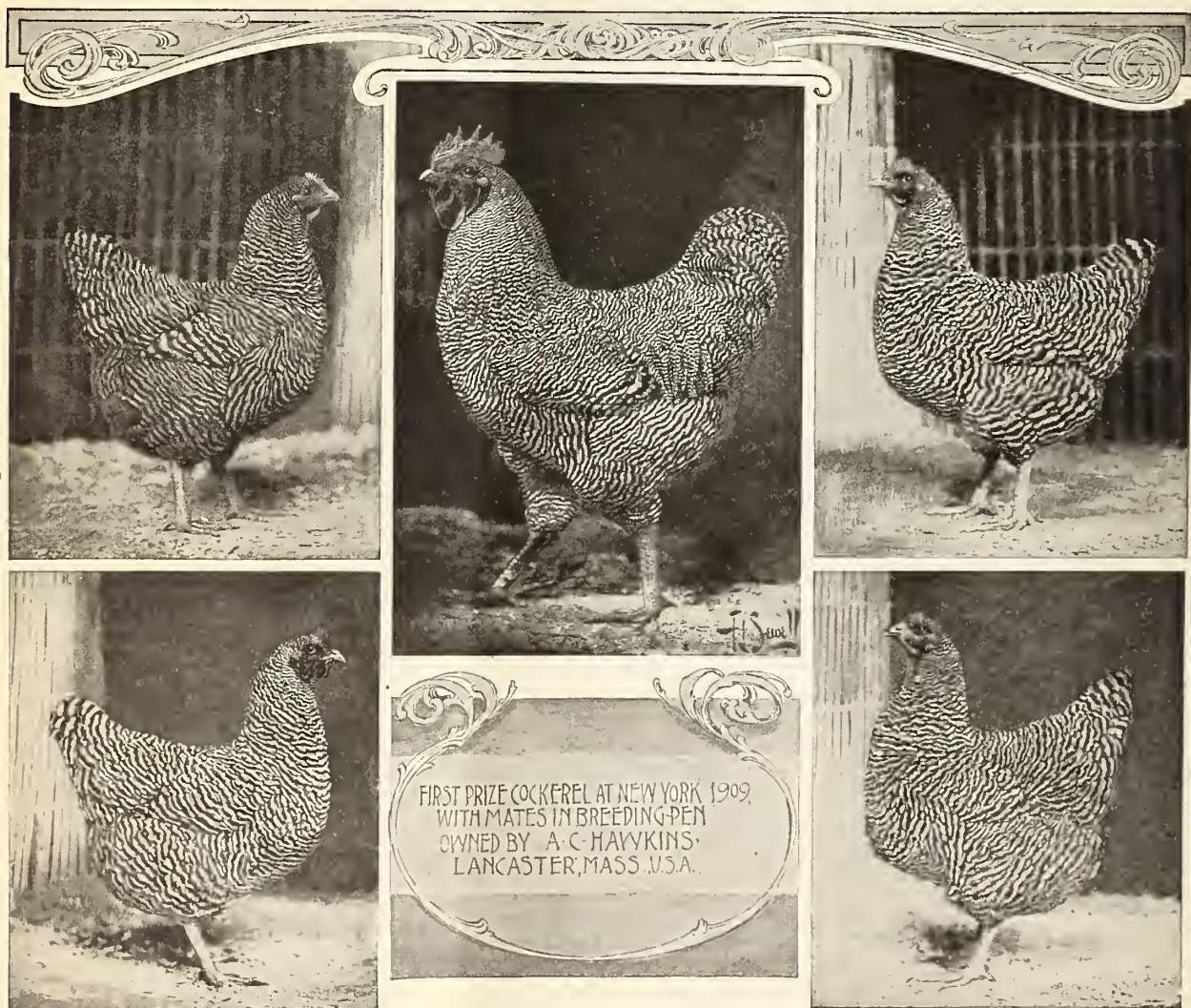
lighter than the female in just that degree—to constitute the ideal mating—in which both sexes may be reproduced with uniformity, each to its inherent color. It is a familiar experience with breeders that a male too light in color does not unfavorably influence the color of the progeny further than to lighten it, whereas the male too dark destroys the character of the barring. The mystery yields readily to analysis. When an unnecessarily light sire is used, the natural effect is a lessened secretion of pigment in the progeny, accordingly diminishing the dark bars as to their width or intensity of color, leaving the lighter bars immaculate. But the male too dark in color entails in his progeny a development of black pigment in excess of the inherent habit of barring, and this color is forced into the lighter bars; the natural boundaries of the light and dark bars are disturbed, and in the absence of any force to arrange surplus color alongside of—and thus widen—the dark bars, a disorderly deposit ensues and the labor of previous generations of careful breeding is undone.

As to the proper mating, the exact degree of this sexual difference in color is a thing impossible to describe comprehensively. It is a trying problem for breeders of experience to select unerringly the proper male. Generally speaking, with stock bred along proper color lines, the

color difference seen in chickens from the same mating, avoiding extremes, is a dependable key to future mating.

The recent past has seen much discussion as to the merits of undercolor. During its development, surface color deteriorated for a time, and fanciers who should have known better declared strong undercolor to be ruinous to the surface. But the fact remains that with due allowance of time for the surface to adapt itself to new conditions, uniform barring throughout the length of the feather is conducive to a greater perfection even of the surface.

The gradual perfecting of the Barred plumage along the lines of straighter and more sharply defined bars naturally suggests comparison with a pattern of plumage with which it has much in common—the transverse penciling of the Silver Hamburg. The Hamburg's colors differ from the Rock's in being comprised of solid black and white, which are brought about by the male's surface being broken up into patches of solid color. The question has been asked whether the Rock's barring will eventually take on the Hamburg characteristic of bars of solid color; and its proper answer has to do with male color. Certain pullet-breeding males closely identified with the best female lines show a tendency suggesting the Hamburg male's



AN A. C. HAWKINS' "COCKEREL MATING" PEN.

This group shows "Royal Blue," the first prize Sweepstakes Champion Cockerel at Madison Square Garden Show, New York, January, 1909, and his mates in the breeding pen. Of them F. L. Sewell wrote: "Plainer than words, the group illustrates what one of America's oldest and best Plymouth Rock fanciers considers an example of progressive breeding, which amateurs can safely follow." This mating produced the three cockerels that sold for \$500 in December, 1909, New York Show, besides others of equal merit.

massing of color, in which the barring in some surface sections gives place to patches minus the dark bars. As the pullet-breeding male, under prevailing ideals for exhibition uses, has no place in the showroom, no consideration of male color need stand in the way of further idealizing of the female's barring.

THE STANDARD'S DEFECTS

It would be impossible to present a specific outline of the ideal of color for the Barred Rock based upon the Standard's explicit authority: in place of graphic accuracy, we have a most meager presentation, in which both inaccuracy of statement and omission of important points of description find place. Under these conditions it is no wonder that advanced fanciers aim at an ideal not conceived of by the average breeder, and that judges, in spite of their best efforts to apply a Standard which does not embody the ideal, fail to satisfy. Perhaps the best instance of this vagueness lies in the description of the pattern of Barred plumage. The light and dark bars are specified to be "of nearly equal width." Is it intended to place equal width at a discount, in favor of the "nearly" equal as the ideal? Or is "nearly equal" to be understood as on a parity with "equal" width? And then, is each bar to be nearly equally wide throughout its extent, or does it refer to the light and dark bars as compared with each other, or to the several bars upon a single feather, or to the several sections of the body, or in a comparative way to the two sexes? The importance of this point is second only to the description of the individual bars. Of the four qualifying terms used, not one has a specific unmistakable meaning. Two requirements of vital importance are ignored, namely, that the bars should cross the feather at right angles to the quill, and that they should be bounded by straight lines of demarcation with no merging or mingling of their respective colors. An important element in the description, which finds no place in the present Standard, relates to the comparative width of barring in the different bodily sections. The revision of 1898 read "the barring on neck and saddle hackles to be narrower" and "in the primaries, secondaries and feathers of the tail wider than in other sections". This brings us to the point that all Standards, past and present, indiscriminately confuse unavoidable natural traits with ideals, in a manner most perplexing. Would not sectional uniformity of width of bars be a welcome feature if Nature's scheme allowed? The perfect Standard would be one in which the present-day status of the fancy should be treated upon every point so graphically as to admit of no misapprehension, and at the same time outline the tendency towards still more advanced ideals.

TRADITIONS AND DELUSIONS

The history of the Barred Rock is a record of misconceptions and fads. The females were originally too dark—an unavoidable trait at that early period of crude barring, as this defect was more manifest in the lighter specimens, and the law of lighter males for breeding had not been recognized. Then followed the days of light females with coarse open barring. It was at this period that a prominent eastern breeder of Brahmas, conceiving that the Rock's shortcomings were directly in the ratio of their departure from the "lordly lights", crossed the two, and sold a goodly flock of the cleanest-legged to a leading breeder of Rocks. The following season this blood was disseminated throughout the country; and although the improver broached the matter freely by word of mouth, he has neglected in his voluminous writings upon the subject to record this interesting chapter in the history of the breed. This strain was the most prolific in white sports and—it goes without saying—in stub-shanks. And, wonderful to relate, it signally failed to lay the omnipresent ghost of the black dam.

It was one of the original traditions of the Barred Rock that the male and female should match in color—in theory, albeit the sexes refused to come that way; and

this found substance in the requirement that the two sexes, shown always then in pairs for a single prize, should match in the show-pen. I venture to say that the majority of breeders will second my assertion that this old tradition should have been preserved—at least as to the dark limit. It is to the unnatural system of score card judging that we must look for the origin of this modern ultra-dark male fad. The same conditions once drove the original Wyandotte into the "crow" column and incidentally well-nigh out of existence; until we went over to comparison England for a new stock which had been bred to the breed's ideal instead of a score-card Standard.

The history of the Barred Rock shows why the original type of pullet-breeding males, deficient in upper and under barring, could not stand in the show-room with special dark-bred males. But that day is past. The cockerel-bred males have outlived their usefulness, and must soon be numbered among forgotten fads. If the winning female type of today is more beautiful—and so more typical of the breed than its dark-cull sisters—by that same token is the male to match that typical female equally beautiful and worthy to stand as the male type of his breed. We have too long been deposing the rightful heir to our esteem in favor of this changeling. Let us oust the pretender and restore to his true position the actual Plymouth Rock male. With all the faults of our present Standard, there are enough provisions as to color plainly in force to warrant the modern pullet breeding male, with his fine barring in surface and undercolor in all sections to outrank the prevalent black-barred males if only the Standard's color provisions are carried out. Recent perfecting of the barring in pullet-bred strains is significant of a turn of the tide in the near future in favor of the natural male.

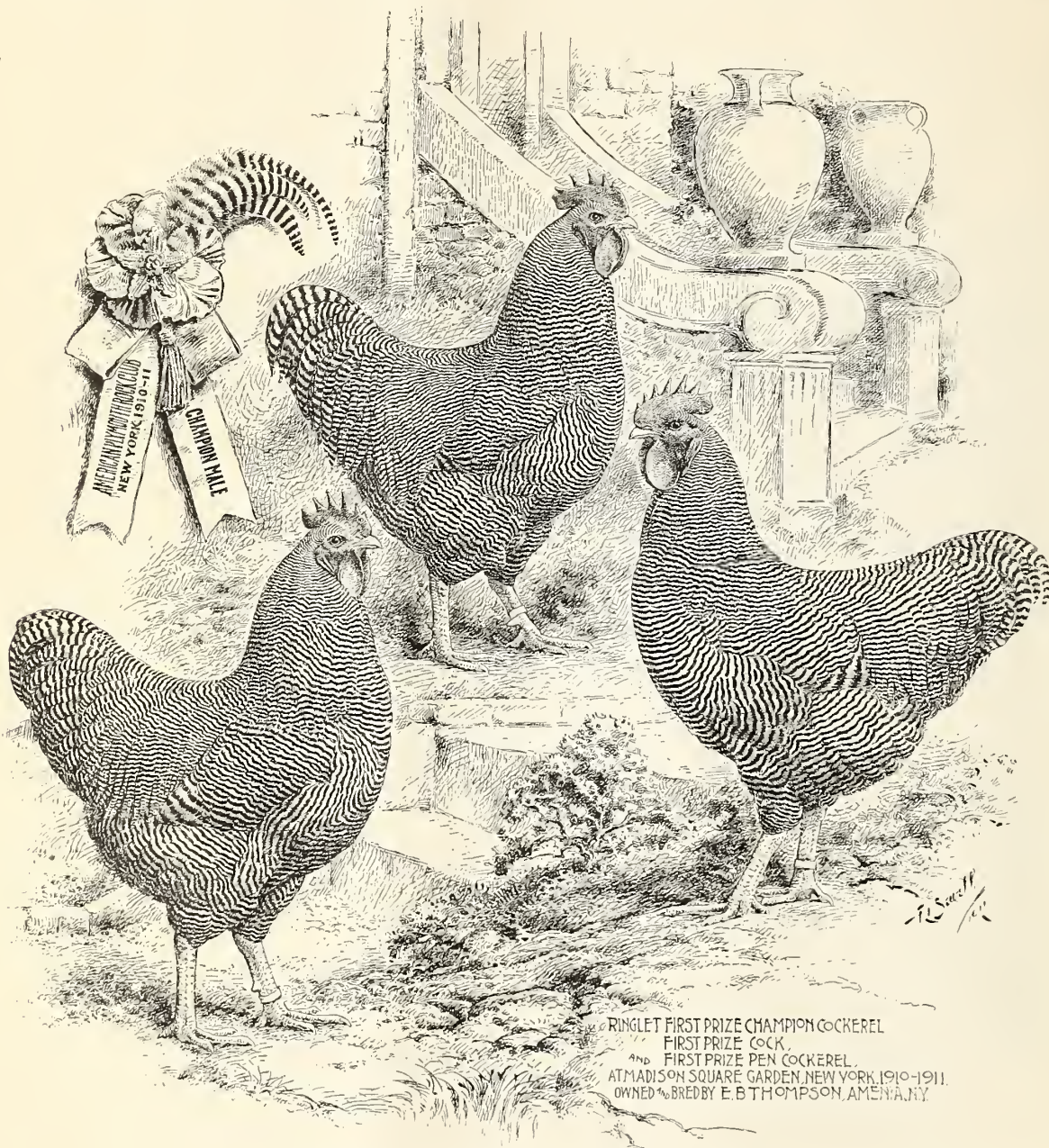
CORRECT BARRED COLOR

The essential problem concerning the Barred pattern—how wide the bars?—is dismissed by the Standard with the single term "narrow." I recently put this question to a leading breeder whose males win with the best, and he declared that barring could not be too narrow. Another breeder whose strain for females has gained enviable recognition, replied that barring must not reach the limit of narrowness if the best effect in females is desired. The term "narrow" in description, unlimited by any qualifying clause, has its disadvantages: one of which is that in the lack of comparison with some palpable degree of narrowness it conveys no positive meaning; while at the same time it leaves room for the construction that the narrower, the better. The idea has been broached of making a specific limit of the number of bars proper to each section of the body; which plan has been discouraged as impracticable. Narrowness has a relative rather than an absolute significance. The ringy appearance arising from the bars of adjacent feathers matching as to their lateral position, is furthered by narrowness, but is an obstacle, however, to the more essential "sharply-defined" quality. If "sharply-defined" character—which is the joint effect of strongly-contrasted color and perfection of bars—is established, the ringy effect is a highly desirable adjunct. The Standard sees fit to ignore this ringy quality, as if of minor importance. Nevertheless, despite the omission, it constitutes an essential element of quality in barred plumage, and as such is a factor in estimating the worth of a specimen. The "sharply-defined" quality is the very foundation of beauty in barred plumage; but this feature is weakened by too narrow a degree of barring. A medium-narrow compromise conserves both in the most pleasing degree.

The ground color of the barred plumage—color of the lighter bar—is not plainly established by the Standard's text. The light bars borrow color effect from the dark bars, which, as we have previously seen, is the logical source of the light bars' apparent blueness. Accordingly, we are prone to confuse this composite effect for the individual color of the light bar. In the degree that all black deposit is eliminated from the light bar, the de-

sired "snappy" quality is developed. It is along the lines of a complete separation of pigmentary deposit in the adjacent bars that improvement in "sharply-defined" excellence has of late been progressing. However, it is not strictly white, but so light a gray as to be readily confused with white. Photographs of that degree of lightness which seems best to present the character of a right-colored specimen are apparently white as to their highlights. It seems to me proper to portray the Barred Rock thusly, as simulating the natural appearance. The Standard itself is authority for this. The ideal cuts of barred feathers (page 13) are presented with white bars. So also with the ideals of Barred male and female—these are white save in shaded portions. The barred plumage with its ground color so perfected as to appear white is accordingly within Standard requirements. But we must not confuse apparent

with actual whiteness. The Hamburg's color, being strictly a barring of black and white, if apparent blending is effected, through distance or indistinct lighting, fails to yield a blue effect. The principle of blending—confusion of the senses—refuses to act at a single operation through the two separate degrees lying between the simples (black and white) and blue. Under one distinct optical act black and white blend to gray, and again, gray blends to blue. The fact that under uncertain lighting barred plumage appears bluish argues that it is distinct from Hamburg color in retaining black pigmentary deposit in sufficient degree to be actually a light gray; under the blending process, to appear blue; which effect still dominates the joint effect of dark and light bars. The truth that this blueness is thus jointly effected is shown by the fact that a smutty off-colored White Rock—minus the dark bars—signally



RINGLET FIRST PRIZE CHAMPION COCKEREL
FIRST PRIZE COCK
AND FIRST PRIZE PEN COCKEREL.
AT MADISON SQUARE GARDEN, NEW YORK, 1910-1911.
OWNED & BRED BY E. B. THOMPSON, AMENIA, N. Y.

THREE FIRST PRIZE "RINGLET" NEW YORK MALES.

"Ringlet" 1st prize and champion cockerel: 1st prize cock and 1st prize exhibition pen cockerel at Madison Square Garden, New York, 1911. These birds are three of the greatest Barred Rocks males ever exhibited at New York by one man at one time. They are owned and were bred and exhibited by E. B. Thompson, Amenia, N. Y., the originator of the world renowned "Ringlet" strain Barred Plymouth Rocks. The 1st prize champion cockerel in the picture is a grandson of Mr. Thompson's New York Champion of 1908.

fails to render the blue effect. It does not seem probable that so long as Barred Rocks are bred with reference to barring upon males, the breed is in danger of assuming the Hamburg's color tone. The proper color of the dark bar differs from the ground color simply in the proportion of black deposit. This pigment when in proper amount is just sufficient to negative the feathers' normal white color—the joint effect being technically a gray—one principle of color balancing the other. As in the case of the light gray bar being mistaken for white, so likewise this gray bar is so dark as to appear black. Black pigment in excess of the required amount by constituting a deposit capable of reflecting light from its massed substance, becomes the positive black which the Standard prohibits.

With proper color contrast established, the remaining element in sharply-defined barring is perfection of the individual bars. Unless the remaining two adjectives "regular" and "parallel" can be tortured into unusual meanings, the physical shape of the bars is scantily outlined by the Standard. The line of demarcation between the light and dark bars should be straight and at right angle with shaft of feather, with no mingling or merging of their respective colors. The phrase "of nearly equal width" is wanting in specific application. If this is assumed to refer to a comparison of the light bars with the dark as to their relative widths, it is still indefinite without limiting its meaning as to which, if either color, is to preponderate. It is a fact that with the best female plumage the dark bars are narrower than the adjacent light ones, but it is an open question whether the committee who formulated this description had this fact in mind. It is generally asserted that the Standard exacts a common description of plumage for the two sexes. However, we may search its text in vain for any authority to that effect, save by implication from the fact that male and female are grouped together under a single plumage description. As opposed to this construction is the fact that a sexual distinction is recognized when the female only is required to have the terminal bar of the dark color. The natural inference is that such requirement does not extend to male color, but with plumage identical in other respects, equivalent to an admission that the male should appear lighter than female. Pretty near a full bill for a pullet breeding male as the recognized type! With such a vague standard, judges find latitude to follow individual ideals.

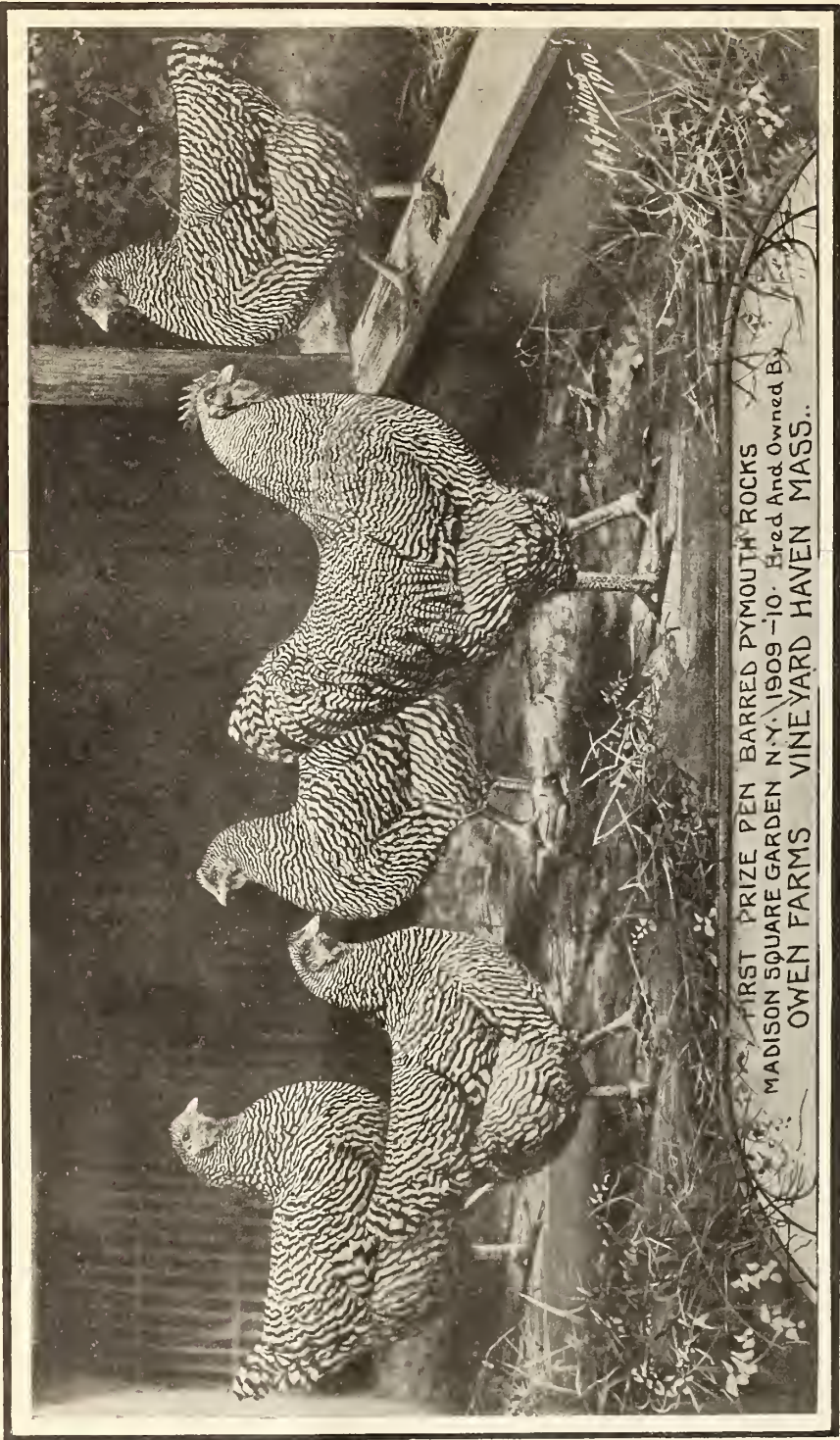
Regularity of barring implies that the several bars of any feather shall be of equal shape, width and color. The manifest ideal is toward uniformity as regards the barring in different sections of the body. The characteristic difference of the feathers may prove a barrier to this, as the wing and tail plumage persists in comparatively irregular and wide barring. But the cunning hand of man has overcome so many apparently insuperable obstacles in the moulding of types that it would be rash to assume that the barred plumage presents any insoluble problems.

BEGINNING WITH BARRED ROCKS

It is probably a rare case that the beginner in this breed does not at some later period realize the necessity of making a new start with better stock. The fact that some noted breeder is quoted as saying that his best bird of the season came from the pen of which he expected least, is no argument for inferior stock. Such cases only emphasize the difficulty of properly estimating quality short of the breeding test; and the matings which prove an agreeable surprise are invariably of the best breeding, and luck has attended the selection of the proper male. It may be set down as an axiom that the utmost perfection in color comes from the mating of specimens of the same family, for the uniting of distinct stocks, however fine in quality, demands generations of breeding to harmonize their warring elements. The beginner will need all the encouragement that may come from successful matings the first and

each successive season; and the successful blending of strains is a task to which only the accomplished breeder is fitted and then is most safely conducted as a side line. More failures result from injudicious mixing of strains than from any other cause, for the amateur almost invariably starts in with an infatuation for creative breeding. If one is to allow a fresh-blood hobby to ride him, he will find smoother traveling with some solid colored variety. Abundant capital may in a measure atone for the fault of over-ambition, but it is in narrow lines that the beginner stands the best chance of succeeding. With the most prominent breeders of Barred Rocks sex-specialists, it would seem as if there were plenty of work laid out in a field thus limited. In view of the present unstable phase of the exhibition male type, the female side offers the greater promise—producing both sexes of correct type, as against both sexes of questionable type. The first problem is whether to start with stock or eggs. We will premise that the beginner is ready to justify his selection of this exacting breed by starting with the best. This is emphatically the breed of which culls will not answer the purpose. If even a very few females, from the breeder whose record nominates him leader, together with the male best calculated to be their proper mate, can not be afforded, the next best plan is to start with eggs from the best pens available. The best trio that can be bought might in three months produce as many chicks as the limits of a small place will best accommodate, and represent many times the money value of stock slightly inferior. That testimony of leading breeders goes to show that the trade has changed greatly as regards Barred Rock values. The buying public are learning that there is no proper means between the extremes of quality, and it is only to the best that any particular fancy value attaches, and food value only applies to the remainder. Success lies not in large numbers. In starting a flock for females, one should keep in mind the needs of successive seasons. So, if pullets are chosen the increased expectations as to their period of usefulness means much. We will presume that the beginner has realized the need of closely allied blood; and supposing that the females are ultra-typical specimens, his most sanguine hope is to perpetuate their quality, with whatever perquisites luck may throw in. If the mating proves to be a happy one, no fresh blood will be needed in the matings to follow, so that the stock continues to remain vigorous. The same mating may be retained, wholly or in part for another season; or the cock mated to his pullets and a cockerel to the hens. If a strict pedigree has been kept all incest may be avoided by mating the dam of the selected cockerel to the original cock, the cockerel to the remaining hens. Outside of these matings the only proper course is to go back to the breeder from whom the stock came for stock of same blood as that originally purchased. If the male line has been determined upon, the course suggested is somewhat different. Now the ideal is embodied in the male; and the start should be made and the successive matings planned with especial reference to the desired traits in that sex.

The Barred Rock embodies more features of interest than any known breed. It is unique in being the only breed of its color to win more than passing attention. Its breeding problems are complex and difficult. These have turned aside many a breeder who having temporarily wandered from its charms return to take up the old favorites with a renewed allegiance. The name Plymouth Rock touches a responsive chord with any patriotic American, as attaches to no other breed. All things betoken a more general devotion to it as the fowl of manifest destiny—always the great American breed, warmly welcomed in every land where beauty in fowls finds favor—great also in utility, it must ultimately become great in financial possibility to the successful breeder. Its appropriate club motto would be: By its stripes we are heeled.



The above study represents a First Prize Exhibition Pen of Barred Plymouth Rocks at the above mentioned show and may be considered faithful portraits of these individuals as they stood before our camera. In color and in barring, they were all that could be desired, having plenty of straight-across, clean-out barring. This pen was headed by a very typical and graceful cock-erel of fine size. To any who had the pleasure of seeing them, we feel quite sure they will be carried in memory as a grand pen of high-class Barred Plymouth Rocks. —A. O. Schilling.

CHAPTER IV.

Barred Plymouth Rocks

How to Select Birds For Cockerel, Pullet and Single Matings. Proper Mating of Blood Lines Important. Utility Qualities Successfully Combined With Exhibition and Standard Requirements.

By E. B. THOMPSON



MY experience in breeding Barred Plymouth Rocks dates back to 1879, or thirty-one years. I have, therefore, had a long time to study the breed and find out the best methods of producing the most superior specimens. The length of time I have bred them may cause many readers to think I am waxing old in years. However, in point of fact, the writer's age is just forty-seven.

I began breeding in my school boy days and was enthusiastic from the day, in 1879, when I owned my first cockerel. I thought then and have thought ever since more about Barred Plymouth Rocks than upon any other subject. Success came to me from the beginning, and when about eighteen years old I was selling birds and eggs in quite a profitable way. My foundation stock was the best to be had, and ever since taking up the breeding of Barred Rocks as a sole business and life work I have bred only the very highest standard. I wanted to produce the finest, not only for personal satisfaction, but from a business standpoint. The demand is for high-class birds for breeding and exhibition, and my specialty has been and is now to produce such. The experience I have acquired during the thirty years I have bred Barred Rocks is of invaluable worth to me as a breeder and might be called business capital.

I find a great many people hold the erroneous theory that utility qualities cannot be combined with the exhibition and standard requirements of feather and barring. A visit to my farm, at Amenia, N. Y., will convince anyone who sees the large size of my birds and their splendid forms, that they combine utility bodies with superior barring and color. In laying qualities my "Ringlets" are unsurpassed; some of my finest exhibition females are splendid layers, and my customers say the same thing.

As show birds the quality of my "Ringlets" is unquestioned. As a business fowl for general purposes, the Barred Rock as a breed stands without a peer. A good-sized, well-formed, well-bred, vigorous Barred Rock is a valuable asset and a ready seller, and combined with good laying qualities makes as nearly a perfect bird for utility as has thus far been produced in the history of fancy poultry.

As to laying qualities, I speak from an intimate knowledge of my strain of "Ringlets". For instance, in 1908 one of my cockerel-bred pullets, sired by my first prize Champion cockerel of the previous winter, was hatched the 29th day of March and had laid the eggs and hatched out a brood of nine chicks October 11th. These chicks were from her own eggs, and, moreover, this pullet had laid a number of eggs besides those she sat on and hatched. This is surely early maturity and early laying.

COCKEREL MATING

As to mating Barred Rocks for exhibition, there is a general rule talked of and written about by breeders, viz., the mating of exhibition colored males with dark, finely

barred, cockerel-bred females to get show cockerels; and exhibition females mated with medium light, snappy females to get show pullets. I will describe these matings as they are made at my farm, where they have produced my prize winners at Madison Square Garden, New York, for twenty-two years, including my Champion first prize cockerel of 1908, considered by a number of conservative judges, breeders and editors to be the best Barred Rock male produced thus far in the history of the breed.

To mate a pen for cockerels, select a male of medium dark exhibition color, of bluish shade (even from head to tail) and barred distinctly to the skin in all sections, the bars running as straight across the feather as possible. The surface barring should run in regular lines showing the "ringlets." He should be of standard weight or over, of sturdy build, with good length of back, broad body of good length, and well rounded breast. Wings and tail must be well barred and the tail should be of medium length (not long) and well furnished with soft coverts, being carried at an angle of about forty-five degrees. The comb should be small, straight and evenly serrated; the eyes reddish bay and the legs a rich yellow, of medium length and set well apart.

The hens and pullets to mate with this male must be large in size, with broad backs and bodies of good length, full, round breasts, and the barring of plumage close, narrow, clear cut and extending to the skin throughout; the tails should be short. They must be medium dark to dark in color with bay eyes and small, straight combs.

The male heading this pen should be a high-class show bird, and his ancestry also of the same quality, the sire and grandsire being exhibition specimens. The hens and pullets should come from exhibition sires; in short, it is necessary that both sides of the mating be strictly cockerel-bred for generations back, and from the very best ancestry. From such a mating a breeder can expect high-class exhibition cockerels; the pullets will come about the color of their dams and will be valuable for the next year's breeding.

I believe strongly in ancestral backing, and that males should be used in mating that are bred from sires or dams having the qualities desired in the progeny. In the breeding of horses, cattle and dogs, pedigree plays a leading part. No horseman would entertain for a moment the thought of paying a large fee for the service of a stock horse, unless such animal came from ancestors possessing pronounced quality. A helper or bull of a family of great butter or milk producers commands a high price and ready sale on account of the reasonable certainty that these qualities will be perpetuated in the offspring. In breeding all the higher classes of animals great importance is placed on ancestral blood, and animals either registered in the respective records of the breed or entitled to registration, at once assume a just superiority over individual animals having no distinct or traceable family lineage. So with Barred Plymouth Rocks, the individual quality must be right and the pedigree undisputed.

The object sought in mating this variety is to get both cockerels and pullets that conform as nearly as possible to the Standard of Perfection in form and color, and to bring out the bluish tinge of the plumage in a very noticeable degree. The blue color adds greatly to the beauty of the bird, as do also the "ringlets" which appear in specimens whose feathers are evenly barred and rightly placed.

PULLET MATING

To produce the finest pullets, use the very best exhibition colored females, clean and bright in color and blue, showing the zebra stripping or "ringlets" as much as possible. Discard all those that are splashy or broken in surface color. The barring must be regular and deep throughout and clear in wings and tails; select breeders having feathers ending with a narrow, black tip. The legs must be deep

dam was an exhibition bird. It is important, too, that pullets be not only exhibition color, but be bred from superior, prize-winning dams. Chance birds are of but little value to use in the breeding yard, because they will not transmit their good points to their progeny.

SINGLE MATING

Some breeders advocate single mating, or one pen only, to get both cockerels and pullets. In this mating a male is used a little lighter than standard color, and females about exhibition color. The chicks from such a mating will come quite even and uniform as a flock, with a small percentage of culls. Some will show much quality and the majority average good. By persisting in this method and selecting breeders each year whose sires and dams were of the right color, splendid chicks can be bred and some good exhibition birds, but the finest exhibition birds produced during the past fifteen years have been the result of double matings, or a separate mating for each sex.

Under and above these broad principles there are unwritten factors which enter into the equation of mating and which but few have been able to direct and control. There is an intuition in the mind of the expert breeder that helps in solving this problem. This gift with years of experiments and experience gives a breeder control of his strain and matings with an assurance of producing the superior exhibition birds he wants. With the breeder who has mastered the science of breeding show birds year after year there is a reason for a certain male being mated with certain selected females. Nature always rules, and it is a knowledge of nature's laws that must be followed in the successful handling of Barred Rocks.

PROPER MATING OF BLOOD LINES

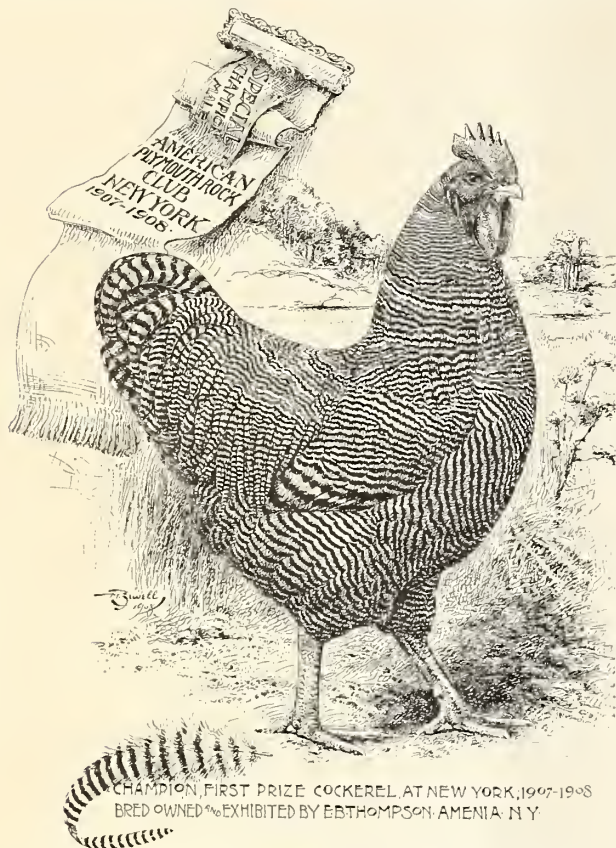
The value of the proper mating of blood lines cannot be over-estimated. It is a fact that the best stock and winning blood must be used as a foundation. Then it goes without saying that with proper mating and feeding, success is sure to reward the careful breeder, prizes will be won and orders come in freely. But the best blood is imperative in producing the highest types.

It is not always true that a great individual male will get as good cockerels as himself, nor a great female as good pullets in all respects. On the other hand, if the blood is there and breeders are used that come from years of careful mating and breeding and they have strong and important breeding sections and are mated right, the chicks from these birds will come much better than the parent stock. They may take after great ancestors and be the highest type of show birds.

Haphazard bred stock is of no value to anyone who wants to reach close to standard requirements for bad things will come out and show in the chicks and good things stay in and not show, therefore, no progress can be made. At the same time the cost of time, care, feed and housing is the same with ill-bred as with skillfully-bred and prize-winning blood.

The old rule that defects in birds used for breeders should be counteracted in the mating by using mates without these defects (for instance if a female has an imperfect section use a male perfect in that section) is in an offhand way correct, yet this principle must be modified to meet many cases. The sections in question of the ancestors of the birds to be mated must be known, thoughtfully considered and become factors of the equation. Extremes in color, shape, size and barring are not seen in the most intelligent matings for either males or females, unless some particular feature is sought, and in rare cases.

Head, breast, back and wings are strong breeding points. The wing of a cockerel-bred female that is very dark and only fairly well barred will often breed a fine standard wing on a cockerel; provided, of course, that the sire of the female was good in wings. If the same care and skill were used in the breeding and mating of Barred Rocks as in breeding and improving trotting and running horses there would be more great show birds in the country today.



CHAMPION FIRST PRIZE COCKEREL AT NEW YORK, 1907-1908
BRED OWNED & EXHIBITED BY E. B. THOMPSON AMENIA N. Y.

"RINGLET", FIRST PRIZE NEW YORK CHAMPION COCKEREL.

"Ringlet", first prize cockerel and winner of special prize for champion male at Madison Square Garden, New York, 1907 and 1908, owned, bred and exhibited by E. B. Thompson, Amenia, N. Y., the originator of the world-renowned Ringlet strain Barred Plymouth Rocks. This bird was considered one of the greatest cockerels ever exhibited. He is the sire of many noted prize winners, and is the grand-sire of Mr. Thompson's first prize champion New York cockerel of 1911.

yellow; eyes red or bay. Let the size be standard and their bodies well rounded, with full breasts and broad backs of good length.

Select a male of eight or nine pounds weight, of sturdy build, full, well-rounded breast, broad, good length back, strong legs (deep yellow in color), yellow beak and bay or red eyes. The plumage must be several shades lighter than for exhibition, clean and bright, entirely free from any shade of brown or smut, and even from end to end, with well-barred wings and tail. Let the under barring be as good as it may with these necessary qualities. Such a pullet mating as I have described will please the breeder in results and certainly produce elegant exhibition pullets.

It is necessary that the male heading this pen be of the best exhibition blood. Never breed from a cockerel, expecting finely colored pullets, unless you know that his

There have been times when birds of good blood have been mated with no thought, and the results have been excellent, some fine show birds resulting. The owner could not, however, think himself a Barred Rock breeder of ability; chance favors such cases. To produce year after year winning show birds, both cockerels and pullets, is evidence of an intimate understanding of this, the foremost and most popular variety of poultry.

Any intelligent fancier can succeed if he sets out to do so. It is not necessary to put on a determined look nor assume a tragic voice and manner and say, "I will". Just

buy the best birds, eggs and blood affordable and make a separate mating for cockerels and one for pullets along established and regular lines. Avoid experiments, feed properly both breeders and growing birds a large variety of rations. Give free range to chicks and house in clean, dry coops. Observe closely the breeding trend of matings. The following year try to preserve all the fine qualities and breed out the defects that may appear. Upon such a foundation and by this method I rapidly made improvements in the variety and founded the well-known "Ringlet" strain of Barred Rocks.

Line Breeding

Proper Selection of Blood Lines to Establish Strains of Barred Rocks That Will Produce Exhibition Specimens

By ARTHUR C. SMITH

Manager, Grove Hill Poultry Yards



TO avoid any misunderstanding as to the meaning of the term line breeding, and to escape the adoption of many different interpretations, the writer will briefly define his idea of what line breeding really consists.

Line breeding as generally understood and spoken of by the breeders of fancy poultry consists of using certain types and methods from year to year which produce uniform results. The method in vogue with most of the leading breeders of that variety in the breeding of exhibition Barred Plymouth Rocks, involving the use only of standard colored males and their daughters when breeding exhibition males, and of standard colored females and their sons when breeding exhibition females, is a good illustration of what the writer understands as line breeding. More strictly, it may be said to be mating of stock with relation to one phenomenal bird, so that the best qualities of that bird are reproduced in an appreciable percentage of the progeny.

This mating with relation to one bird, if that is wisely selected, is the most apt to meet with happy results. Line breeding is not necessarily in-and-in breeding, nor yet even in-breeding, though it will in all probability involve the latter principle. The writer has no hesitation in advocating it as the best and surest method, especially for a small breeder, even if it is not absolutely necessary. It has been a recognized fact for some years that the quickest and surest way of reproducing the characteristics of a male bird is to breed him to his own offspring, and in the case of a female the same law holds good. No process or system that was ever brought to my notice was half so efficient in stamping a flock with this or that characteristic. If by the means you can stamp a flock with one quality, why not two, three or a dozen? So you see, the nearer to perfection your foundation bird, the nearer perfection your flock at any given interval.

As I started this article with an illustration that mentioned Barred Plymouth Rocks, I will follow it throughout, though I believe the same principles are true in the breeding of any breed or variety.

It is possible to mate an exhibition male to females that were sired by other exhibition males, and thereby to produce exhibition males, even though none of the parent birds are related, but it is not a model mating under many circumstances. Such a mating has this disadvantage, that by the crossing of two different lines of blood the special

characteristics of each will be modified and sometimes entirely obliterated. It has on the other hand this advantage, that the strong points of each may be reproduced to an extent that make such a move desirable.

In most instances, however, better results would be obtained by mating males and females that are slightly related. Many deem this unwise on the ground that it impairs vitality. Such is very apt to be the case if too close a relationship is too often chosen. But in the mingling of the different lines of blood lies the breeder's opportunity for improvement. A line of blood will have faulty characteristics as well as those that are meritorious, and there comes a time when one or another of these faults assumes such proportions that it must be corrected. When faults occur so frequently as to become characteristics of the strain, the surest and quickest way to correct them is by introducing new blood. This should be selected from a line which is designed to produce the same results as the line with which it is to be combined.

An experience of my own convinced me of the necessity of having "warmer blood," as it is called, in the mating. The old Barred Plymouth Rock cock "Rally," the bird to which this strain of Rock cockerels owes much of its merit—pardon me if I assume that it has some little merit—was a bird about which I knew but one thing, i. e., his sire was a remarkably fine specimen, whose breeding was well established.

The first year "Rally" was mated to females that promised to aid him in the production of some fine exhibition cockerels. They were from a cockerel line, but between "Rally" and these females there was not the remotest sign of any relationship. They failed to produce anything that was extraordinary, with one exception, and though he was a marvel in all respects except comb, that was so marvelously poor that I did not care to breed from him. That mating was a failure. Foreign blood that did not nick is the explanation.

The next year "Rally" was mated to females the sire of which was related to his sire, a distant relationship between male and females, and the results were decidedly more satisfactory. The cockerels from this mating received awards at Boston and won at some other shows. But the best results came later when the line had, by longer development, become stronger. It was, "Rally's" grandsons that especially distinguished themselves. "Rally's" grandson tied for first at Boston, 1896, and lost the place by the weight clause alone. "Rally II," also a grandson of old

"Rally," won the grand sweepstakes for best Barred Plymouth Rock male, and was at the head of the best exhibition yard at Boston, 1898. Both birds resembled the old king pin of the show ring, who also won at Boston in his third year. To show the strength of the line, it may be said that "Rally's" grandson was such through the female side of the family, while "Rally II" was sired by a son of old "Rally."

The breeding of Barred Plymouth Rocks as practiced by a majority of breeders, and the writer believes by the best, has developed two distinct lines of blood, one known as the cockerel line and the other known as the pullet line. Some advocate single matings, but the following facts are



A rarely beautiful Barred Plymouth Rock pullet showing most even and regular barring in every section, and having a bright, snappy surface color. Although this pullet was not fully matured when exhibited at the Madison Square Garden, her surpassing color markings easily landed her in second place, classing her with the best of her kind ever exhibited at New York.

enough for me. A standard colored hen when mated to a male that with her produces good exhibition females does not produce a single first-class exhibition male, and if by any chance she does produce good exhibition males, the converse is true, the females are not right good exhibition specimens. Neither have I ever known of a case where a standard colored male produced both good males and females from a single female. Many reasons have been and still might be advanced for adopting a double mating system, but for this article the foregoing will be deemed sufficient, and we will proceed upon the plan of two distinct matings.

ESTABLISHING A STRAIN

By far the most scientific plan, and consequently the surest, is that of procuring one phenomenal bird and upon the characteristics of that individual specimen to

establish a line of blood which shall by the strength of its lineage furnish the breeder with a large percentage of exhibition birds of that particular sex. When breeding for exhibition females, an ideal female should be the foundation of the line, and when breeding for exhibition males the one bird upon which the foundation of your line is to rest, should be a male of the greatest exhibition merit. Starting with the right bird and by working the right methods, the breeder has every reason to expect ultimate success. A certain amount of time is required for all things, and as much in the breeding of fancy poultry as in anything else. Great improvement rarely comes the first year. Three to five years are required before the line becomes sufficiently developed to show its strength.

As to the selection of the one phenomenal bird, nothing should be said except that it should be one as near the breeder's own ideal as he can obtain either by breeding or purchase. His own ideal may not conform to that described by the Standard of Perfection.

If he understands the difference between his own ideal and that pictured by the Standard, he may choose which model he wishes to copy and abide by the consequences. If he has wrongly interpreted the Standard, contact with other and more experienced breeders will soon apprise him of the fact. It must not be forgotten that the more breeding this model bird has back of it, the quicker will the results desired be reached. It is of vast difference whether this bird has been selected from a haphazard flock of thoroughbreds which by chance produced one extraordinary specimen, or from some flock which has reached a remarkable degree of perfection through years of systematic breeding and from which other specimens could be selected but slightly inferior to the first choice. The former may be of use, and may not, the latter will be. To establish a line from the former, in-breeding will at the outset be inevitable and must be practiced in some degree for several generations.

Fortunate, indeed, would one be to secure a specimen which at once meets all the requirements of the eye—that is, faultless in shape and perfect in feather—a model of its kind. It would seem a pity that it had not the power to reproduce itself without the aid of a mate, which appears to us as an insurmountable obstacle in our path of progress. But as perfection has never been obtained, herein lies our hope of attaining it—by mating the sexes, we may, or we hope we may, produce a composite that is our ideal, and were the human mind but large enough it would be done.

This model having been secured, it then becomes necessary to select a mate. Two things should be then considered, first and most important, is the breeding of the bird, and, second, is the individuality. A thing that must not be lost sight of is the prevailing individuality of the flock, bird for bird. Are the characteristics of the flock the characteristics of the individual bird? If such is the case, the breeder may expect their traits to have their influence upon the progeny.

After the first year's breeding the model should be bred to young of its own. These should be selected for merit exclusively, except that they magnify the faults of the model bird. In that case the breeder should select, if it is possible, good specimens that do not follow the model in these faulty particulars.

If the model be a male, it is well to add a female to the breeding yard if one is found of foreign blood that is well adapted to the purpose, and thus start a new line, but one that still holds a relationship to the first line. This will serve nicely for breeding in later years instead of introducing wholly foreign blood.

Following the supposition that the model is a male, the third year will afford an opportunity for many interesting variations. We have first the model mated to his daughters and grand-daughters of the first line, also to his daughters of the second line, and always the possibility of starting the third line, if we see a chance of improving the first or second. Then we have the possibility of mating the best

son of each line to his dam and his dam's sisters, also to his full and half-sisters. In fact, the possible combinations here are so numerous that a general rule for mating as far as relationship is concerned is worthless.

The breeder can best decide from the birds, for the individuality of the birds has much to do with it, and these birds have both individuality and breeding back of them and can be depended upon as reliable breeders.

The same general plan may be followed in breeding a line for females when the model bird is a female. Should the females bred from this model during the first year prove good specimens, one of the sons should be mated to its dam, and the males thereby, being three-quarters the

blood of the dam, should be of the greatest worth as breeders of exhibition females.

The writer of this paper frankly acknowledges that between breeding prize winners on paper and the same in reality, there is a vast difference. While papers upon the subject are often interesting and sometimes valuable, the breeder will find that close study of the parent and the chick coupled with good judgment, are a combination hard to beat.

I am aware how trifling a matter the breeding of fancy poultry is to the great body of intelligent people uninitiated in its principles and its secrets, and yet I say that human minds have only begun to grasp the possibilities in this direction that should be theirs.

Establishing a Strain

Start with Mating a Pair of Selected Birds of Strong Blood Lines. Inbreed But Use Only Strong Vigorous, Early Hatched Birds

By C. H. WELLES



WHEN I began breeding some twenty years ago I bought good birds anywhere I could get them and, of course, expected good results. I did get some good ones, but results were far from satisfactory, as the percentage of fine birds was very small, and not until I began breeding from single birds and had worked out a strain of my own did I meet with any marked success. I began by breeding from

one pair of birds, the best I had that were suitable to produce the desired results, and this requires no little thought, as there is much to be considered, viz: shape, head, barring, color of barring, etc. This last I consider one of the most important. Every successful breeder has his hobby and you may call this mine.

In selecting my breeders I am careful to use only those with a narrow clean-cut bar, which must be of a bright snappy blue color and not a positive black. I find it better to select these breeders just at the time when the birds are in their best plumage. This breeding must be done from strong, vigorous, early hatched birds, and continued on these lines. One must not expect to get the best results the first year in breeding from birds where the male is not related to the female, but where this has to be done, select two or three of the very best and build up a strain. You can't take "any old bird" and do this, but get the best and if the first year's results are not satisfactory, the next generation should be better, provided the proper selections are made in the next season's breeders.

I have made it a rule to breed my best specimens singly for several years past, and to illustrate this more fully to you, will tell you just how I am handling "Fluffy Ruffles" my first New York hen this season. I have her with a very large fine blue barred cockerel and will at the end of the season have about fifty chicks from her. She is a wonderful hen, and I do not expect many as good as she and I may not get any quite as good, but I will get some good ones. Next season this blood will be diffused throughout my whole flock, where it will work to advantage, and as it is all the same family, good results are

bound to come. The good birds will come wherever this blood strikes, and this is the way I have been able to keep up and produce fine show birds.



"FLUFFY RUFFLES."

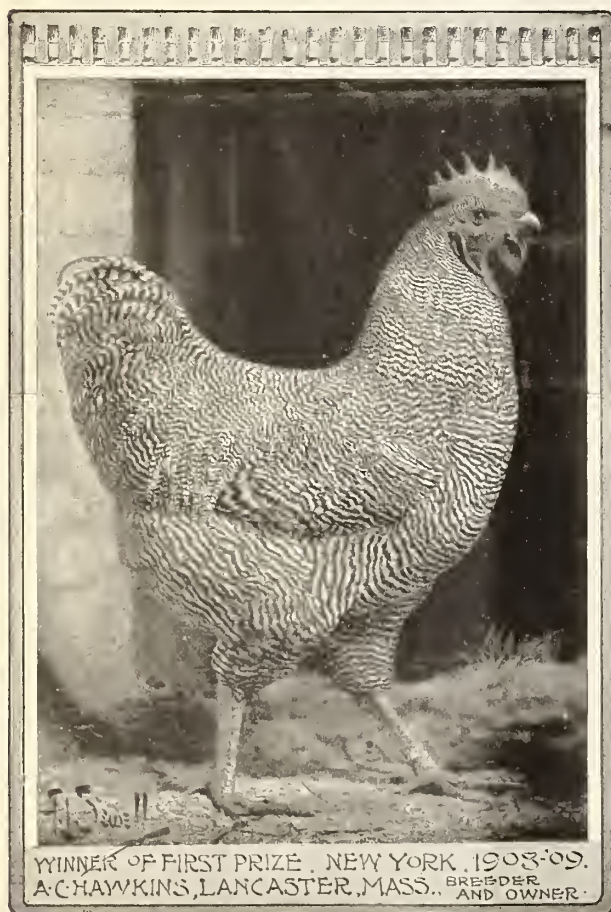
Breeding for Color and Barring

Beauty of Surface Color with Distinct Barring of Feathers Paramount. Too Much Attention Given to Under Barring of Feathers

By A. C. HAWKINS



ANY of the judges have become so thoroughly carried away with the under-barring that they pay little attention to the beauty of the surface color. They begin to score from the skin and cut more severely for lack of under color than for an inferior surface. The beauty of a fowl is what we see, and while I am a believer in distinct, even barring under the surface, I do not want the bars so strong and heavy underneath that they destroy the beautiful blue on the surface, and it is a fact that most of the specimens that are very strong in under-color have a muddy black bar on the surface. It is also a fact that the very finest surface colored birds have not the strongest under-color. The two qualities do not breed together, naturally, or, in other words, those males that are most attractive in the breeding yard and exhibition pen may not have the same strength in the under-barring as other specimens that are less attractive.



In a line of thirty-six of the best cockerels of the year at the New York Show, thirty-two of which the judge had checked as being worthy of careful consideration as prospective winners of the prizes, the specimen shown above from the yards of Mr. A. C. Hawkins, Lancaster, Mass., was awarded first honors. A number of Plymouth Rock fanciers thought that another of Mr. Hawkins' four grand cockerels as easily deserving the honor. We could see that the splendid fellow was developing in beauty of color and symmetry of form. He is a type in great demand at the shows of the present day. — F. L. Sewell.

Now, breeders, which will you have? What I want, and what any real fancier wants, is perfection in surface color and all the under-barring that nature will supply with it, and not what some judges I know require, namely, perfection in under-barring and as good surface as we can get with it.

LINE FOR MALE BREEDING

To produce fine males select the very best exhibition male to head the pen. He must be a bird of standard weight, or a little over, with broad, full breast; low, evenly serrated comb; solid red lobes, bay eyes, broad, well curved back; nicely curved tail, carried rather low; and strong, rich yellow legs, set well apart. In color he should be a rich, dark blue, even all over, and as closely barred as possible to retain distinctness, with wings and tail distinctly barred throughout. Get all the under-color possible with such a surface, but do not let the surface suffer for the sake of heavy under-color.

Mate with this male eight or ten females of the same line of blood, or, in other words, females whose sire and grand-sire were high scoring exhibition males of the type and color I have described. Select females of standard size, with small, evenly serrated combs, bay eyes, blocky shape, broad backs, low, well-barred tails, and strong, yellow legs. In color these females should be several shades darker than exhibition color, the bars to be narrow, distinct and close together in all sections, with the under-color strong and distinct to the skin. With these strong colored females you can get all the under-color in the male product that it is possible to have with a brilliant, high colored surface.

From such a mating as I have described, if bred in line, I can produce 95 per cent. first-class breeding males with 25 per cent. of sufficient merit for exhibition at the best shows.

LINE FOR FEMALE BREEDING

In mating to produce high-class exhibition pullets select females of the best exhibition color, evenly and distinctly barred down to the skin. Be particular that the neck is evenly and closely barred and not lighter in color than the back and body. Have the main tail feathers and tail coverts well barred across the feather. Females are liable to fail in these sections unless care is exercised in the selection of the breeders. Have them standard weight or a little over, with broad, full breasts, broad backs, gently inclining to the tail, which should not be carried too high. I prefer a slight cushion, which gives the female a round, blocky appearance. The comb should be small and evenly serrated, eyes bay, and legs a rich yellow. Such a bird should be fit to show in any company. If these females have been bred in line for several generations the offspring will be more even in form and color.

With these females place a male of medium light color and of even shade from head to tail. He should be of standard weight, have broad, deep, full breast; body not too short; back well curved to tail, which should be carried rather low. This male should have been bred in line from high-class exhibition females for several generations, so that his blood may have the same character as that of the females with which he is mated.

From such a mating can be produced 95 per cent. of first-class breeding females and 20 to 30 per cent. of high scoring show specimens. The males from this mating will

be very nearly the color of the sire, and are useful as breeding birds in mating for exhibition females. Save only those that are even in color for breeding purposes.

Barred Rock pullets reach laying maturity at the age of six and one-half to seven months and prove grand fall, winter and spring layers. The hens are exceptional mothers. Cockerels mature at from nine to ten months. All Plymouth Rocks fatten easily and exhibit a tendency to take on fat internally after maturity. Adult males will

tip the scales at 9½ pounds and hens range about two pounds lighter in weight. They are fine meated but rather coarser boned than other American varieties. Young stock is hardy and easily reared and adults are not liable to disease. Good foragers but are easily kept in confinement. Brown eggs, yellow skin and legs. This variety is one of the favorites of the Maine Experiment Station where they are developing a wonderful capacity for egg production.

Changes in Shape and Color

Color Markings Undergo More Radical Changes Than Type in the Past Fifteen Years. More Bars More Sharply Defined Required on Modern Barred Plymouth Rocks

By C. H. LATHAM



THE Barred Plymouth Rock of ten, fifteen and twenty years ago, was quite a different type of bird from that which is bred today, and the Rock of as many years hence will likely be of a still different type. The world moves, and the breeders of fancy poultry will not stand still. What satisfies today will not do for tomorrow.

The changes in shape have been less than those in color and barring, being more of a refining of the shape than of radical changes in the different sections of the bird. By this course we have given it a distinct type, different from any other breed.

Shape making the breed, each should and must have a shape distinctly its own. The Rock is a bird of curves, and any approach to straight lines in any section should be avoided. When one says that the straight back of a R. I. Red or the round body of a Wyandotte is Rock shape, that person has yet to learn what the true Rock shape really is.

Color making the variety of a breed, a Barred Rock must have barring in the plumage, and herein lies the greatest change that has been made in the variety during the past twenty years.

In former years the barring was of a different character from that found in the best birds of today. Then we had very open barring, which meant few bars to the feather and faulty barring in wings and tail. The color was a weak, so-called "blue-black" crossing a "bluish-gray" or "grayish-white," which gave a blue tinge to the surface color. Many birds looked very blue which had little barring and that very faulty. The barring was not clean cut, but each color would so soften and blend into the other that it was difficult to tell just where one bar left off and the other bar began. The color was of such weak nature that as a bird approached the molting period, it would look a dirty, faded brown—a worn out, dirty looking color. The greater part of the birds that were good exhibition specimens as cockerels and pullets, would go all to pieces as cocks and hens.

Bluish tinge and barring seem to be two different things, and to have the variety distinctly identified as a barred bird we must have barring and lots of it. To do this we must have contrast between the two colors of the bird—a wide difference between the colors. The edges of each bar must end abruptly and the contrasting color begin sharply, not softening or blending one into the other. The Barred Rock of today is a bird of bars, and not of bluish tinge, except when seen at such a distance that the two colors seem to blend into one and then they have a bluish tinge.

GREAT CHANGE IN COLOR AND BARRING

In color and barring a great change has been made. The bars have been brought out more sharply, there are more bars to the feather, the bars are of more equal width, and they run more straight across the feather. Improving the distinctiveness of the bars has brought the color of each bar into itself, instead of blending into the contrasting color as in the birds of former years. This seems to make the color much darker, but it is not so. We simply have a contrast instead of a blending of colors and we get it



FIRST PRIZE BARRED PLYMOUTH ROCK HEN, BOSTON, 1910.

This hen was the First Prize and Champion Female, winner of \$100 Champion Challenge Silver Cup for best female at the Boston Show, 1910. She is a full sister to First Prize Hen and Champion at Madison Square Garden Show, 1909-10, and daughter of First Prize Hen and Champion at Boston Show, 1909. Bred, owned and exhibited by C. H. Latham, Lancaster, Mass.

using the same colors as of old. This has been done without introducing any foreign blood of any kind. They are the same birds in blood as they were twenty years ago and one could very easily breed them back to the old type.

In addition to improving the shape of the bird and acquiring the contrasting bars to a marked degree, we have so improved the character and shape of the bars that they now show in lines, in quite a noticeable degree, on the rounded portions of the bird, which gives a very pleasing appearance.

Along with these changes in color and barring we have tried to keep some of the good things we had in the old type of Rock, such as yellow legs and beaks. We have succeeded in breeding the bird to a more intense color and a greater number of bars to the feather, but Nature seems to rebel against doing this and retaining good yellow legs and beaks. We have had to put up with a good deal of dark color in legs and beaks in order to get what we were working for in color and barring. But this will right itself in time with careful breeding. If it were dead easy to breed Barred Rocks with intense sharp narrow barring and pure yellow legs and beaks on ninety-five per cent. of our birds, no one would care a straw about breeding them.

It seems to be the particular delight of man to be always trying to do something that Nature if let alone will not do. Those who work along lines that are entirely contrary to Nature have a strenuous job on their hands, and an eternal fight to keep their work from going back to what Nature would like it to be. Others who are willing to work along lines that Nature seems to regard as fixed laws, to be shaped, moulded or modified, but not changed, seem to make the greatest advancement.

Take the color of the Barred Rock, for instance. We demand narrow, intense, sharply defined barring to show

the entire length of the feather in all sections of the bird, and the tip of the feather in the female to end in a dark bar. We do this because the rank and file, indeed almost every one who breeds Barred Rocks, have gone wild over "under-color" or "under-barring." Apparently their aim in life is to be able to comb back the feathers on the back or breast of a bird and show wonderful bars down next to the skin. If they can do this, they seem to think that they have accomplished the greatest thing that can be done in breeding.

Go into any show in America and you will see the fancier and visiting breeder digging the birds over to find the under-bars. They have gone "batty" on under-color or under-barring, and have lost all conception of what a barred bird should be.

Does Nature demand that her wild birds having barred plumage must also have the fluff or under-color barred? No! and she never lets it remain on our birds except under protest. If we keep breeding along our present lines for a thousand years, we shall be fighting all the time to hold the under-barring if combined with good surface barring.

LET NATURE ATTEND TO UNDER-COLOR

In the multitude of species and varieties of wild birds, Nature has confined all her color work to the surface, so when we turn back the feathers of the most beautifully under-colored white bird we find some shade of slate for the under-color to support the brilliant color work that Nature has put into the right place—the surface.

Look at some of the wild birds that have barred plumage—there is no running together of the two colors, but each is sharp, clean and distinct in itself. The bars are straight across the feather and run in lines around the rounded sections of the bird.

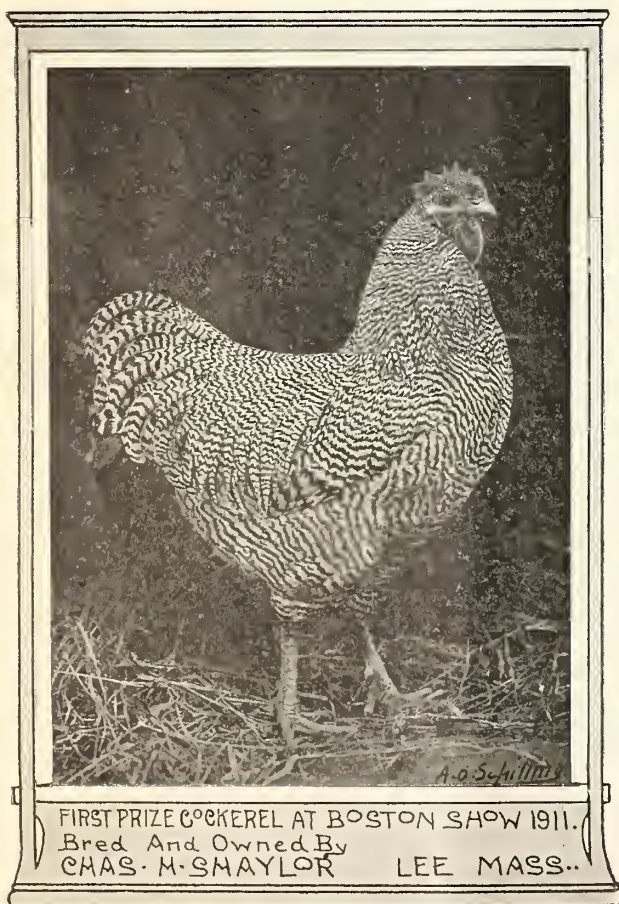
Now look very carefully. All the color pigment is in the surface color, and for this reason no feather will show bars except in that portion of the feather which is exposed to the light. And, furthermore, in a large number of stuffed specimens handled by the writer, the feathers ended in a light bar. When the ends of feathers of wild birds are tipped with dark color, it is so delicate a line as to be practically invisible. These light tips so overlap each other that they lay in regular lines and make it really a barred bird. Our Barred Rock of the past and present is really more a bird of barred feathers than it is a barred bird. When we reach that height in breeding so that the bars will show in lines as they do in the wild birds, then we shall be indeed breeding Barred Plymouth Rocks.

Compare any fine specimen of Penciled Hamburgs with any Barred Rock living today. The penciling on the Hamburgs will show in lines (which are really very narrow bars) following the rounded portions of the birds very nearly as perfect as in the wild birds. Look carefully and you will find that every feather ends in a narrow light tip and the under-color is slate.

Every breeder will admit that under-barring is the snag that we get hung up on the most often—and a majority of the breeders will admit also that we are a lot of cranks to breed the birds along the lines that we have been and are still breeding.

To predict what the Rock of the future will be, is something that the writer would not care to do. He firmly believes that it is possible to breed them so they will be a far more beautiful bird and still hold all their good practical qualities, and he also believes that this can be done by following closely Nature's lines and fixed laws, confining all our work to producing the surface color.

Even if we follow the lines along which we have been working, we believe we shall succeed in making a more beautiful bird of the Rock than it is today, but mark this, there will be no cessation of hostilities between the breeders and Nature. The latter will keep trying to undo the work of the former. Would it not be wiser to "get together" and so have Nature help us instead of holding us back all the time?



The above cockerel is, in shape and color, evenly and sharply barred in all sections.

Double Mating Barred Plymouth Rocks

By W. S. RUSSELL



HAVE read several articles in the poultry journals of late from persons advocating the idea that it is not necessary to mate separately for choice colored pullets and cockerels. These writers mislead the amateur by telling him that both exhibition colored females and males can be bred from one mating. To my sorrow I put in seven seasons experimenting with the single mating plan, to find that I was just that many years behind time, and that I must sell out and begin anew. I found by experience that the females would breed darker each season and the males lighter, and that it was impossible by this method to get both males and females of the same color.

During the past few years I have visited quite a number of breeders' yards, and among them some of the foremost in the country. What I mean by "foremost" breeders are those who have been breeding Barred Plymouth Rocks for years, and have been so fortunate in their matings as to produce prize winners. Now the question arises, how do they do it? I will say that the majority succeed by practicing the double mating system. We hear all sorts of criticisms of the double mating process, but we find it is oftenest condemned by those who have had but little experience in mating and breeding the variety.

The question is frequently asked me, "Do you practice double mating with your Rocks?" My answer is, yes, and I will explain my method of mating. First, to make a mating that will produce exhibition colored females, I select ten females for each pen, commonly hens for one pen and pullets for another, as I find it poor policy to put hens and pullets in the same pen, because a hen will get overly fat on the same food that a pullet will starve on. I select females light in color of plumage. When I say "light" I do not mean "washed-out" or "whitewashed," or so light as not to be bright in their markings. I mean standard color. I look well to the standard requirements as to shape, color of legs and beak, eyes, earlobes and shape of comb. About the first thing after catching the specimen, I look for my mark in the web of the foot to ascertain if the specimen came from a pullet mating, that is, I must be positive its ancestors were from a pullet line of breeding.

With the pen of females now selected I mate a very light-colored male. If I have a cock bird not over three years old that has proved himself to be a good pullet breeder, so much the better; I mate him back to his pullets. This will insure the results to be satisfactory. For the pen of hens I would prefer a cockerel of the same line of breeding.

I do not wish the breeder to infer that I continue in-breeding year after year, but I know by experience no breeder can establish a distinct strain or a mating that will reproduce itself unless he practices in-breeding more or less. I always have two or more pullet matings and cross one from the other, thereby giving me new blood and at the same time keeping in line.

Those who practice the double mating system know full well that the male progeny from a pullet mating are worthless so far as show purposes are concerned, being altogether too light in color to score high, but they are just the thing for breeding pullets the coming season. It is a well-known fact that the value of a good pullet breeder is not measured by his score.

Now we will proceed to describe our system for mating to produce exhibition colored males. First, select ten females. They must be of good size and form, with bright colored plumage, the barring being narrow and running down to the skin. I prefer the feathers on the back to show seven or more narrow and distinct bars. I want

these females to be considerably darker than the females used in the first described mating, but do not understand me as desiring birds so dark that the plumage appears "smoky." As I said before, the barring must be distinct, using the same rule as regards ancestors as I described in pullet mating.

Now that we have our females selected, we will look through our flock for a large, vigorous male. We want an exhibition colored male. He must have narrow barring, a good comb, good eyes, beak and legs. I prefer a cock bird mated to pullets and a cockerel mated to hens, for the same reason I have mentioned in pullet mating. Most breeders select their males for the breeding pens first and then mate their females to the male. I do the reverse, for the reason that I may select a male that is strong in points where my females may be weak. For instance, if my females seem to have combs too large, and backs too long, I select a male to overcome these defects by using one with a small comb and a short back. Now, if you find your matings have been satisfactory one year, do not disturb them, but continue to breed them the same way, for as many years as you have the breeders. If they produce prize winners one year they will do it the next year, if the conditions and food are the same.

Do not expect 90 per cent. of the males from your cockerel mating to be exhibition specimens, nor the same from your pullet mating, as Barred Plymouth Rocks do not breed that way. If I could get 20 per cent. that will score 92 points I would be "tickled to death." This does not seem to be very good, but I know it is a greater per cent. than can be obtained from the standard mating.

I do not claim that the rules I have laid down can be depended upon at all times, as the best of them miss it in their matings once in a while. I contend that it is essential to make two matings in Barred Rocks as long as our standard requires both male and female to be of the same color, although the requirements are not in accordance with Nature's laws, for the reason that we have found, by actual breeding, that the males breed lighter than the females.



"BLUE BELLE SIXTH."

This Barred Plymouth Rock hen scored 93½ by Schellabarger. She is the daughter of Blue Belle 4th, the first prize hen at Boston, 1905, and was bred and is owned by R. W. Wales, Iowa City, Iowa.

The Standard Ideals of Barred Plymouth Rocks

The Ideal of the Male in the Present Standard is Practically Perfect. Female Markings and Outlines. Black Tip of Feathers and Balanced Bar Strongly Favored. Under Barring Endorsed. Uphold the Distinctive Characteristics of the Different American Breeds

By VICTOR W. BRADLEY



THE present ideal Barred Plymouth Rock male both in outline and expressive pose seems to admirably portray the distinctive breed characteristics of the Plymouth Rock, so there is room for but little if any adverse comment. The artist has pictured a wonderfully fine conception of the pattern the breeders are to keep in mind as Standard.

There is no longer that slightly "over-drawn" or too "massive" presentation of what we regarded as ideal. The plumage too, both of male and female, is remarkably close to actual life.

It is well, of course, to regard the Standard in force as essentially correct, although we may not fully agree with every particular; but we hold that a guide, though slightly faulty, is better than no guide at all. Neither must we regard the Standard description as an inflexible description of perfection, because a bird may be considered perfect in sections and yet not be exactly like another bird which we also regard as perfect in the same sections. This sounds contradictory but we believe it is true, especially when applied to the barring of the Barred Plymouth Rocks.

We have noticed in studying the outlines of the different American breeds that one may be slightly misled by the pose and plumage as pictured in the Standard. This is true of the Barred Plymouth Rock cut, the zebra effect of the ideal confusing the mind for an unbiased study of the outline. This might be obviated somewhat by considering the outline of either the White or Buff variety as pictured in the Standard and comparing this outline with all others, were it not for the fact that the present outline of the Barred male is so far superior. The horizontal requirement for back outline—between neck and saddle, however, is not prominently shown and the comb seems to vary from its description. (We liked the comb of the former "ideal", except that the rear point was too slanting.)

If one wishes to study and fully appreciate the type of form our artist has really outlined in the Barred Rock male, we suggest that the hock joint be covered by the hand or bit of paper. To my mind this drawing shows a longer bodied bird than we give the Standard credit for. If ever the average breeder has been misled by the elegant plumage pictured by the artists, surely he has more, by the plumage on the live bird, and the results in size, shape and finish of Barred Rocks in comparison with the Whites at our shows, demonstrate the wisdom of Barred Rock breeders uniting with the breeders of Whites in order to agree upon a fully satisfactory ideal type of the Plymouth Rock.

The Barred female as illustrated, while remarkably lifelike in markings, savors too much of the unfinished specimen often seen at the earlier winter shows, while the outline of the White female appeals to us as the "ideal" for breeders to fix in mind, as it shows the beautiful top line desired, the well proportioned neck, the neat well-poised head, the alert carriage, the oblong egg-laying type of body,—Rock characteristics which demonstrate at the nest-box daily, and make for beauty and profit. It is the

female ideal for the breed and a fitting companion outline for that of the male we have selected, both alike suggestive in Rock characteristics—the latter as the stronger—but also neat in head and neck, also oblong in body, meaty in breast, and having sufficiently abundant and well furnished plumage of tail, all of which with the exposed hock and the stout well-placed shank, portray characteristics of the heaviest but the most business-like of the American varieties. We desired cuts which would be distinctively Barred Plymouth Rock and we believe we have such—the Barred male showing both the outline and markings—the Barred female the markings but we chose the White female for outline.

PRESERVE BREED CHARACTERISTICS

In the American breeds described in our Standard there is more or less similarity and we believe it is the idea of the true breeder and judge to maintain the distinctive characteristics of each breed. With this prominently in mind it is well never to make too radical changes, else there is danger of merging one breed into the type of another.

Let the reader draw a careful outline of the Rock on tissue paper and compare them with the outlines of other breeds which are in any degree similar, then note the unmistakable characteristics of the Rocks. If they are compared with the Wyandotte, note the superior length and depth; if with the Javas or Rhode Island Reds, note the superior depth and massiveness; if compared with other breeds, the Rock characteristics are still marked. About the Rocks there is a suggestion of strength and power and though they are somewhat massive in build and usually contented under confinement, they still are active and alert as need be, and, when unrestrained, the Rocks are ready to work, whether foraging for a living or defending their rights.

The color and barring of the winning Barred Plymouth Rocks have excited not a little comment. In our opinion the trend of some awards has been toward darker color and wider barring than is Standard and they cannot therefore be defended. We doubt if an ideal "whole" can be found without ideal integral parts, and the beautiful surface effect on barred birds will be found when the barring is ideal rather than wider, we believe. Here, as much as anywhere, we should use a little latitude in applying the Standard description. A balanced bar (we favor that term) may be narrower or wider, yet be always balanced and still pleasing to the eye when just the one feather or the whole bird is considered. The bar may be as straight edged as a line or a very little curved and in our opinion still be regarded as correct.

We think a dark tip which is in harmony with the barring, both in width and inner edge, is right and is to be favored rather than any other ending. It should be narrower than the first bar but so spaced from it as to lap on the first bar of the adjacent feather and become a part of it. Then if the first white and the first dark bar are right, we have the surface lines so desirable. This requirement appears to be more essential in the female than in the male, and being desirable in the females is sufficient reason

for demanding it in the males. It certainly should be a standard requirement in the plumage of hens, as should also, in our opinion, distinct under-barring to skin.

A prominent white ending of the feathers is not desirable on any specimen. However some of the finest zebra-barred pullets have not shown feathers with the much sought dark tip. In fact, the finest effect (really remarkable) we have seen on a winning female was on a low-placed Boston Show pullet, but its plumage did not show the dark tip on the feather. This is an argument against seriously outclassing a "ringy" pullet whose feathers are not prominently tipped with black. Hens, however, should be thus tipped. A balanced bar or possibly dark bar a trifle narrower than the white should be the ideal barring.

We are aware of the great opportunities there are for study when we begin to consider the plumage of our variety, and especially when we see the different color effects on the most worthy specimens in the show and breeding pens. Perhaps the artist by reason of his continued study of feathers and barring is best qualified to offer suggestions in these matters. Nevertheless, this article is submitted with the hope that others may be benefited and that the few views expressed will prove neither narrow nor incorrect but a real contribution toward making the Standard ideal description which is a composite one, based on the experience of the best judges and breeders, not only the aim but a possible achievement in the yards of every thoroughly painstaking breeder.

Single Mating Barred Plymouth Rocks

Exhibition Cockerels and Pullets can be Bred from One Pen Provided Careful Line Breeding Is Followed.

By D. T. HEIMLICH



IN the fall of 1883 I purchased one cockerel and three females, descendants from a thirty-five dollar trio, purchased ten years previous from a breeder in Massachusetts. I spent two years raising poultry, when I attended my first regular poultry exhibit, held at Aiton, Ill., and discovered that my Barred Rocks did not compare with the best specimens seen at this show. The following season I had a

friend who ordered some Light Brahma eggs from Mr. I. K. Felch, at which time he also purchased a setting of Barred Rock eggs from him, for me. I succeeded in hatching seven chicks, four of which were pullets and three cockerels. The pullets developed into fine, clear, though open barred hens. One of the largest cockerels, though of Brahma type and very light in color, was barred with very narrow bars. I mated this cockerel with the three pullets.

The following season I exhibited at St. Louis, Mo., also at Quincy, Ill. Judge E. F. Comings scored one pullet 95 points, Judge B. N. Pierce scored the same pullet at 93½ and Judge I. K. Felch scored the same bird, as a hen 93, the year following. The hen fever was at its height with me about this time. New blood was introduced from time to time, selected from the breeding pens of others who had purchased good stock. From what I had learned from reading, studying and experience in mating, I determined to let blood tell, and by the selection of narrow and clear barred specimens, laid a foundation for breeders, that under the law of reversion would minimize every year's breeding to the fewest, small sized, or poorly barred specimens. Size and shape and clearness of color, were what I selected in my breeders, to produce exhibition specimens from one mating. I realize that to accomplish the above was a difficult proposition. Others, by the score, had tried it with varying success; if surface barring was right, wings or under-color were bad. Breeders had produced satisfactory results by the double mating system, both for themselves and customers.

Every judge who ever bred or handled Barred Plymouth Rocks could see the advantage that the breeder who used double mating had over the one who used the single mating system. Up to this time I had to depend on others to

both breed and raise Barred Rocks for me. Eight years ago I purchased a cockerel from the yards of a well-known breeder who had produced a goodly number from one particularly narrow, clear barred hen, and a large, fine, style cock that had exceptionally sharp and well defined barring. This cockerel had every characteristic wanted, i. e., low five point comb, deep, red eyes; almost clear, yellow beak; good, yellow legs; very narrow and clearly barred throughout, of proper size, but woefully looking in correct shape. I bred him two years to my very best hens and pullets. Many light colored cockerels showed up the first year. The confusion caused in the distribution of the color pigment in the pullets was not very encouraging, but the second year both sexes came more uniform, fewer light colored cockerels and fewer dark females. The past six years the average production of first-class specimens as now in demand for exhibition birds and breeders has been most satisfactory.

The females that annually revert back to the undesirable characteristics of this progenitor are culled out. The mates for these hens are carefully selected as to number of bars, color, and details of quality sections, that, under the laws of atavism are bound to reassert themselves generation after generation. The tendency of the females progeny will, and has become modified. The male progeny breed truer every year with less tendency to extremely light colored cockerels and a greater per cent. of correctly colored and barred birds that must again become the style, when we get away from the black metallic barring, at present prevalent at our exhibitions, that are produced from almost black females.

Single mating should not mean to a breeder that he can mate two unrelated exhibition birds (prize winners) and expect them to reproduce themselves the first or second season. But by persistently following it up by selection of those nearest to parents, (which the first year may produce but a small per cent.) then line breeding them, can accomplish more satisfactory results than to make two matings, from either of which, one-half or more of the progeny are fit only for market. Avoid extremes, stick to clear, well defined barring, get the blood lines well established, and many very choice specimens of both sex every season will be your satisfactory award.

Shape of First Importance

In the Make-up of Standard Fowls the Shape Outlines Are of Greater Importance in Value Than Color and Markings of Plumage. "Shape Makes the Breed, Color and Variety"

By D. J. LAMBERT



THE tendency of Barred Plymouth Rocks since their creation, to breed light males and dark females, has absorbed so much attention that shape has often been sacrificed to secure good color. With the lighter colored or American Dominiques on the male side, and the darker or greenish, glossy Black Java on the female side, no wonder it has taken so many years to draw these color lines nearer together and to bury the accusation that this American production is a great mongrel so deep that we never hear it spoken of as such today.

In the early days, in the seventies, the Barred were the original and only Plymouth Rocks, and a bird of this color with good size, single comb and yellow shanks and feet would pass for the "clear quill", no matter whether it had Brahma, Cochin or Dorking shape. After awhile experienced fanciers began to place shape before color, as I have done at the head of this article. I consider the former more important every time. "Shape makes the breed, color the variety", and all varieties claiming to be Plymouth Rocks of any color whatever should be molded in the shape typical of the breed, or go under the class where they belong.

It is to be regretted that judges too often shut their eyes to turtle backs, knock-knees, shallow breasts, high tails and narrow, fish-shaped bodies and go wild over the specimen because it is such "awful nice color." They forget that any one can get the color at such expense of shape, but it takes a breeder and fancier to get good shape with good color, and they are the ones who should be encouraged for their efforts. Now that the forthcoming Standard is to give more value to shape it is anticipated that this section will receive greater consideration at the hands of the judges.

For shape let us prefer a broad-bodied bird when viewed from the front; back broad and flat across the shoulders; tail carried moderately low, yet well spread, and sickles nicely curving around it; legs and shanks set up straight like two pegs driven squarely into the ground, leaning neither backward nor inward. If we get birds of this type they will possess beauty whether they are of nice color or not.

DOUBLE VS. SINGLE MATING

The popular fad for color demands two distinct lines of breeding for each sex—that is, to produce show color—yet some judges who actually condemn this method will favor color in both sexes that is utterly impossible to reproduce by mating such birds together. Theories look all right on paper, but when it comes to backing them by facts or the birds, proofs are not forthcoming.

These single mating advocates are good buyers and never stop to ask whether the birds are bred by their rule or ours, so long as they get what they want, but when we

double-mating sinners turn around and purchase "eggs from their best pens" and get chickens without one redeeming feature about them, in fact so pale in flesh and shanks that we are ashamed to turn them over to the market man, it is about time to ask them to hold up until they get something better to brag about. Honestly, now, the best breeders of all varieties, in solid color breeds for shape or in parti-colored breeds for both shape and color, will often admit that they can get better specimens of one sex from any particular mating than they can from another, and if this is true, why is it such a crime for us, the Barred Rock fanciers, to do likewise?

The Standard describes the same color for male Barred Rock as for female; except that the females that have black tipped feathers are preferred. Either this is unjust or it is perfectly legitimate to breed two distinct lines of blood to produce them. Not that we must use females so dark on the cockerel side, or males so light on the pullet side, that we are ashamed to show them, but to secure the highest type of perfection, as the Standard now specifies it, we must have a cockerel and also a pullet mating.

THE DESIRED COLOR

In color each feather should be marked with dark blue bars about the same width as the light or bluish gray ones which run parallel between them; and let both be as clear and as well defined as possible. The bars should be nearly if not quite straight near the tips, but they will naturally curve more or less in the under-color. Give the preference to even barring and advise every Plymouth Rock judge with whom you are acquainted to favor a lighter if well barred male and a darker if well barred female, instead of the opposite, as many have done. If you can convert him to this way of interpreting the Standard, you will do much toward verging these two lines of breeding and help bury the bone of contention that we have wrangled over too long.

Too much attention has been given to under-color, sometimes at the expense of even surface color. I should give preference to the latter every time. It is wrong to put so much value on some feature under the surface which does not add one iota to the quality of the bird, but which is a fad. Let us favor the points of merit we can see at a glance rather than something we have to handle the bird and dig for.

Surely things we can see on the surface are more important than those we cannot see because the coop is locked, and the only reason we can guess why a certain specimen won the blue is that the bird must show better when handled than he looks. I do not wish to be understood as denouncing nice under-color, but there are other points just as important, such as bay eyes, full breasts and yellow shanks and skin which are too often not looked for on exhibition birds so long as they have under-color.

The Felch Breeding Chart for Barred Plymouth Rocks

By I. K. FELCH



YOU may fail to see the meaning of the solid and dotted lines of the chart. To make it clear, we say each dotted line represents the female, while the solid line shows the male, as having been taken from the indicated group. Each circle represents the progeny, to-wit: Female No. 1, mated with mate No. 2, have produced group No. 3, which is one-half the blood of sire and dam.

Females from group No. 3, mated back to their own sire No. 2, have produced group No. 5, which is three-fourths of the blood of the sire No. 2, and one-fourth the blood of the dam No. 1.

A male from group No. 3, mated back to his own dam No. 1, produces group No. 4, which is three-fourths of the blood of the dam No. 1, and one-fourth the blood of the sire No. 2.

Again, we select a cockerel from group No. 5 and a pullet from group 4, or vice versa, which will produce group 7, which is mathematically half the blood of each of the original pair, No. 1 and No. 2. This is a second step towards producing a new strain.

Females from No. 5 mated back to the original male No. 2, produce group 8, that are seven-eighths the blood of No. 2, and a cockerel from No. 4 mated back to the original dam No. 1, produces group No. 6, that is seven-eighths the blood of the original dam and only one-eighth the blood of the original sire.

Again, we select a male from No. 8 and females from No. 6, and for a third time produce chicks (in group No. 11) that are half the blood of the original pair. This is the third step and the ninth mating in securing complete breeding of our new strain. In all this we have not broken the line of sires, for every one has come from a group in which the preponderance of blood was that of the original sire. Nos. 8, 13 and 18, are virtually the blood of No. 2.

We have reached a point where we would establish a male line whose blood is virtually that of our original dam, and we now select from No. 6 a male which we mate with a female from No. 4 and produce group 9, which is thirteen-sixteenths the blood of the original dam No. 1, and three-sixteenths the blood of the original sire.

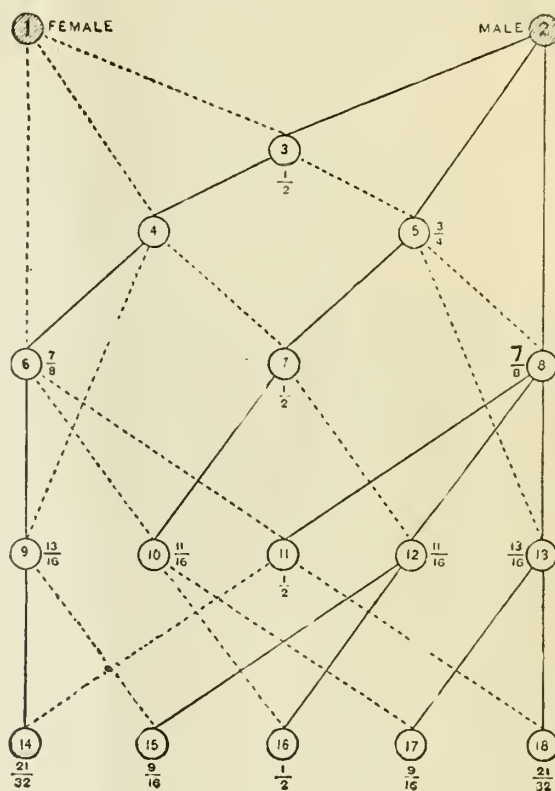
Again, we select a male from No. 9 and a female of the new strain, No. 11, and produce group 14, which becomes twenty-one-thirty-seconds of the blood of the original dam, thus preserving her strain of blood.

A male from No. 13, which is thirteen-sixteenths the blood of the original sire No. 2, mated to females from No. 10, which are five-sixteenths the blood of the original sire No. 2, gives us group 17, which is nine-sixteenths the blood of said sire.

While in No. 16 we have the new strain and in No. 18 the strain of our original sire No. 2, we have three distinct strains, and by and with this systematic use we can go on breeding for all time to come. Remember that each dot-

ted line is a female selection, and each solid line the male selection.

Breeder or novice, in presenting the above for your consideration, I have told you what I think I know to be true. If Plymouth Rocks are selected, mated, and bred as herein I have advised, they will be as popular for all time to come as they now are. Avoid the excessively blocky specimens. Specimens of the greatest productive merit show a slightly oblong type, but avoid also the other extreme, or weakness and roached backs will appear in the flock, and the results will be more detrimental than if you had gone to



the first extreme. Avoid extremes in your matings, both in type and color. Remember at all times that black, white, red, brown or yellow are all foreign colors in a Plymouth Rock, and that the last three disqualify them. The Reverend Mason used to say when he was presenting any cause in which his whole heart and belief were centered, "Today I am going to preach you a sermon that I am willing to die by."

Reader, in the foregoing I bequeath you a legacy. I am willing you should judge my whole life as a poultryman by what I have here written.

Barred Plymouth Rocks in England

It Ranks Among the Popular Breeds, Being Quite Generally Kept as a Utility Fowl. Regarded as an All-Round, Reliable and Very Hardy Fowl. Admirably Suited to the English Farm. Yellow Skin No Detriment

By WILFRID H. G. EWART, England



ALTHOUGH the Plymouth Rock has not the status in England that it possesses in the United States, it ranks nevertheless among the popular breeds. With the Wyandotte, the Orpington and the Leghorn, it is bred and kept throughout the country and that fact provides food for some little reflection. Here are three of our most popular breeds, products, not of England, but of America. The

Leghorn must rank in the category because they were American breeders who first standardized it and sent it over here.

The Plymouth Rock is not, perhaps, so strong numerically in this country as the larger Wyandotte family and the Orpington, but we never have known a more consistently popular breed. In the eighties, soon after it was first introduced, it did enjoy a boom among English breed-



WINNER OF GRAND CHAMPION SHAPE AND COLOR SPECIAL AT TOPEKA, JAN 2-7, 1911. OWNED BY CHAS. J. COOK, MARYSVILLE, KANS.

There were 247 Barred Rocks in competition at the Topeka, Kansas, 1911, show, where the American Barred Rock Club held its annual meeting. The grand cockerel shown above won first in his class, winning besides silver cup for best cockerel and best shaped male in the class. This cockerel was of excellent shape, fine carriage and head points and was one of the stars of the season.—I. W. Burgess.

ers and fanciers, but since then there has been nothing of that kind. Its progress has been most steady and serene and one really cannot recall a single year in which it has shown the smallest sign of decline. After all, this is the criterion by which a breed's qualities should be judged. There must be something that appeals to the public about it; and the public—at any rate the British public—wants an instrument of practical value and profit.

Of course there are two aspects to the matter—it is not to be supposed that the Plymouth Rock is equally admired by fanciers and utility poultry keepers. I do not really know how great the difference is in the United States, but over here the utility Rock is the more widely kept. We have such a diverse collection in the poultry industry recruited from the various classes of the rural population who want a fowl which will lay and which is of some value on the table, that this is bound to be so. But the Rock is still a very healthy show proposition and will continue to be that for a long time to come.

YELLOW SKIN NO DETRIMENT

It is sometimes asserted in American poultry journals that its yellow flesh and legs are a serious handicap to the progress of the Rock in this country. In my opinion, however, that has never been the case, chiefly because no one expects a perfect combination of practical qualities, and the average Englishman has no sort of prejudice in respect of such a small matter. Granted, that what we regard as the pick of our table poultry invariably possesses white shanks and flesh, still this "fad" is affected by a very limited class of buyers. The ordinary consumer—and especially the man who consumes his own produce—is quite content with a fat edible article irrespective of its color or extremities.

It is not either as a layer or as a table fowl solely that the Plymouth Rock appeals to the British public, but as a very reliable all-round fowl whose hardihood is its outstanding quality. On our haphazard English farms this breed generally finds a place, and to the conditions with which it has to put up, it is admirably suited. Damp and cold and wind come pretty much alike—the chickens grow steadily and the hens lay consistently. That is the case with few others of our adopted races.

I have kept Rocks under practically all kinds of conditions and my experience is that they are admirably suited to the English farm, but that they are not the sort to keep in a confined space. For this kind of thing we find them too heavy, too inclined to overeat and put on fat, too often broody. This applies certainly to the Barred variety and in a less degree to the others. It is not their "line."

An attempt, too, has been made to develop the Barred as a "sprint" layer, but that likewise has failed. I do not know whether American breeders have been any more successful in a similar effort—anyway, I am convinced the English bird is quite unsuited to this intense egg production. It is not by Nature a great layer, although it is emphatically a consistent one. That being the case, one hopes the attempt under a scratching shed system will not be persevered with.

AS A FANCY FOWL

Now as regards the fancy aspect of the English Ply-

mouth Rock—it is undoubtedly exceedingly flourishing. The interests of the breed are looked after by three societies, namely, the Plymouth Rock Club, the Plymouth Rock Society, and the Leghorn, Plymouth Rock and Andalusian Club. The first named is a very solid affair ably managed by Mr. A. A. Fleming, of Ampthill, Beds., who has acted as secretary since the formation of the club. The membership now totals 120 and there is a balance at the bank of over £27. The Plymouth Rock Society is also in a very fair way, possessing a hundred members and a number of valuable Challenge Bowls; the secretary is Mr. T. Harvitt, of Sheffield. The L., P. R. & A. Club is not, of course, solely interested in Rocks, but its secretary, Mr. G. E. Gush, is one of our best all-round breeders.

During the year 1909 the Plymouth Rock came out very strongly in the show pen and the birds we saw at the principal shows were well up to average, if not rather above it. Pullets were distinctly better than cockerels, and possibly the bird that won at the Plymouth Rock Club Show, the International at the Crystal Palace, Cambridge and many other shows, is the best Rock yet bred in this country. She is richly and very evenly barred on excellent ground color, of ground type, standing just the right height on

and immovable as its name would lead one to suppose. How your crack show specimens would fare at the Crystal Palace or how ours would fare at Madison Square Garden, it would be difficult to say, but the Plymouth Rock Club Standard given below may afford some indication. It is certain, however, that should American breeders care to send over their birds to our shows or laying competitions, they would prove a valuable object lesson to many of us and be very cordially welcomed.

PLYMOUTH ROCK CLUB STANDARD (English)

Barred and White Rocks—Cock

Size and weight—Cock, 10 lb. to 12 lb. Cockerel, 8 lb. to 10 lb.

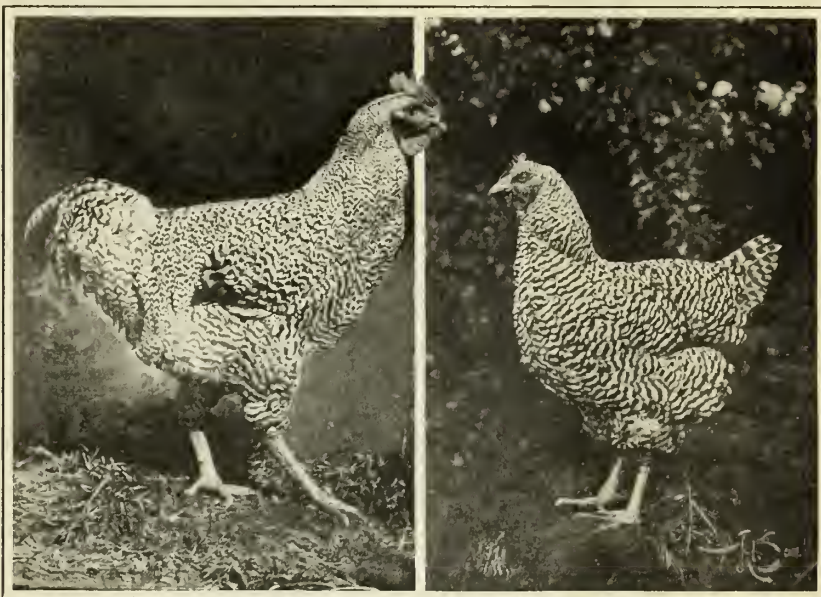
Head—Medium size and carried well up.

Beak—Stout, short, thick.

Eyes—Large, bright, clear.

Comb—Single, medium size, perfectly straight, with well-defined serrations, free from side sprigs.

Neck—Medium length, well curved. A full hackle flowing over the shoulders.



WINNING BRITISH PLYMOUTH ROCKS OF 1905.

leg, has plenty of size, and to show these qualities off was always perfectly trained. There were two or three other good pullets, but nothing in the same class as the Palace winner.

English Rock breeders have for three or four years past been suffering from a craze for narrow, even barring on a rich blue ground. Of course this is very fine and desirable, but it is playing havoc with type, as I understand it. The majority of the cockerels that win at our big shows are lanky, lean, very narrow behind and badly pinched in front. True color and barring are great, but it will never do to sacrifice to these the good old utility type we knew for so long—the big-boned birds, broad, massive, a trifle coarse in barring, but the genuine utility sort. I have seen some of your American birds and I prefer them infinitely to ours—the cockerels at any rate. You aim at a ground color that would practically put a bird out of the running at an English show, but you have the shape and the type.

On the whole, the Plymouth Rock is going strong in England—certainly as strong as ever before. It never has been so loudly advertised over here as have the many varieties of Wyandotte and Leghorn, but whereas these vary in popularity from year to year the Rock is as firm

Back—Broad and medium length. Saddle feathers of medium length and abundant

Ear-lobes and Wattles—Ear-lobes well developed and of fine texture. Wattles moderately rounded and of equal length.

Breast—Broad, deep, well rounded.

Body—Large, deep and compact. Of medium length.

Wings—Medium size, carried well up. Bow and tip covered by breast and saddle feathers.

Tail—Rather small, rising slightly from saddle, nicely curved. Sickles medium length, nicely curved. Tail coverts medium length, nicely curved and sufficiently abundant to cover the stiff feathers.

Legs and Toes—Thigh 2 to 3 inches in length from hock to body, wide apart. Shanks medium length, stout and strong, free from feathers. Toes four, strong, perfectly straight.

Carriage and appearance upright and smart.

HEN

Same as cock with the following exceptions:

Comb—Same as cock but smaller.

Ear Lobes and Wattles—Same as cock but smaller.

Neck—Moderately full, carried well up, and nicely arched from head to back.
Breast—Very full, broad and deep. Carried lower than cocks.
Tail—Small and compact. Carried well back.
Legs and Toes—Thighs 1 to 2 inches in length from hock to body. Otherwise same as cock.



British Winning Plymouth Rock Hen 1905.

Beak—Bright yellow.
Eyes—Clear rich bay.
Face—Bright red.
Comb—Bright red.
Ear Lobes and Wattles—Bright red, free from any tinge of white.

PLUMAGE IN BARRED ROCKS, COMMON TO MALE AND FEMALE

Ground color white of a bluish tinge, barred with black of a beetle green sheen, the bars to be moderately narrow, of equal breadth and sharply defined; to continue through the shafts of the feathers.
Every feather to finish with a black tip.
The fluff or under-color to be also barred.
Plumage presenting upon the whole a bluish appearance and uniform color.
The neck hackle, saddle hackle, wing bow, and tail to correspond with the rest of the body.

POINTS FOR JUDGING BARRED

Color	20
Condition	10
Type	20
Head	10
Size	20
Legs and Feet.....	10
Tail	10
<hr/>	
100	

DEFECTS

Any entire feather or feathers of any foreign color to the breed.
Any feathers or feather or down on shanks or feet, or unmistakable signs of feathers having been plucked from same.
Lopped or rose comb; decidedly wry tail; crooked backs.
More than four toes on both feet, or on one foot.
Entire absence of main tail feathers.
White in ear-lobes; shanks other than yellow.
Any bodily deformity.

DISQUALIFICATIONS

Trimming or faking.

Progressive Breeding of Barred Rocks

Great Strides Have Been Made in Improving Both the Color and Shape of the Barred Plymouth Rocks in the Past Twenty Years. In That Time a Standard Type Has Been Evolved and Fanciers Breed to the Standard Ideal Now Instead of to a Personal Ideal.

Double Mating a Necessity. Retaining Fine Barring and Undercolor
After Moulting an Achievement. Shape and Color
Defects that Have Been Partially or Wholly
Overcome. Breeding for Exhibition.

By M. S. GARDNER

[EDITOR'S NOTE.—This article, compiled from the writings of the late M. S. Gardner, comprise in substance the original contribution by Mr. Gardner to the fourth edition of the book, "The Plymouth Rocks," and his latest contributions to the Reliable Poultry Journal which appeared shortly before his untimely death, February 10th, 1910. We sincerely believe that no more fitting testimonial of the true worth of M. S. Gardner as Poultry Breeder, Judge and Man, can be given to his memory than the publication in this new book of the progressive ideas expressed so carefully and conscientiously in the article which follows.]



ITHIN the memory of many breeders still actively engaged in the poultry business, there were exhibited at the best and largest shows of their early days, Barred Plymouth Rock males that were the veriest mongrels as compared with some of the magnificent specimens seen in the shows of today. This applies equally to shape and color.

The first breeders of Barred Plymouth

Rocks either did not know the advantages of the use of double matings or else considered it too much trouble to adopt this method. Be that as it may, the males seen in the show room twenty years ago and earlier were many of them extremely light in color. Much brassiness and other foreign color could be found in most of them and the tail coverts were more metallic than are those of the best specimens of the present time. The greatest plumage defect was found, however, in the character of the barring. So coarse and uneven was the barring of the best males found in the show rooms previous to 1890 that if one of them could be set side by side with the 1908-1909 winners at New York, Boston or Chicago, it would be hard for the average onlooker to believe that the two birds belong to the same variety. It is only within a comparatively few years that the extremely narrow-barred males with straight, clean-cut barring in all sections have been bred in any great numbers.

After the barring in the surface had been greatly improved, it was several years before males with narrow, straight barring to the skin in all sections were plentiful in any breeder's yards. Within the last ten years males that would now be termed cotton backs have won first prize at New York and Boston. Sixty-five Barred Plymouth

Rock cockerels were shown at New York last winter, 1908-1909, in the open class. Of this number more than one-half were evenly and narrowly barred to the skin, were clean and uniform in surface color and had good wing and tail markings. In short, every one of the thirty-five was a choice specimen and fit to win a blue ribbon. Had they been scored it is probable that there would not have been more than one point difference between the first prize winner and any one of the thirty-five birds mentioned, so

far as color cuts were concerned at least. This shows the wonderful progress made in the breeding of Barred Rock males during the last ten years.

IMPROVEMENT IN SHAPE

Nor has the improvement been confined to color and barring. Equally great has been the advance in the matter of shape. Twenty years ago or even fifteen years back there were as many different types of Barred Rocks shown as there were exhibitors showing, and even more, for one breeder often showed several different types. Long-legged, thin-bodied birds with snake heads and high tails were caged next to birds of small size and Wyandotte type. Little attention in many instances was paid to shape. A monstrosity in this respect often carried off the prize if he possessed the narrow barring the judges were all looking for.

There has been a great change for the better in recent years. To win at any one of our leading shows today, a Barred Rock male

must have something besides color and barring to attract the judge's attention. There is much greater uniformity of type seen in the large shows. Let us take New York for example. Five or ten years ago an experienced judge or exhibitor could walk down the line and tell almost to a certainty which birds belonged to John Doe and which to



THE LATE M. S. GARDNER.

Richard Roe by certain peculiarities then found in their respective strains. Everyone of the more prominent eastern breeders was breeding for his particular ideal and coming more or less near to the Standard. Those who attended the New York show each year because familiar with the characteristics of the five or six different leading strains, so it was an easy matter to walk through the show and select the birds that had come from each of several prominent breeder's yards.

Slowly, but surely, there has come a change, and so close to the accepted Standard type has each breeder of prominence drawn his lines that the judge or layman does not live who could have gone into the New York show last winter without a catalogue or other source of information and said with any degree of certainty, "This bird came from the yards of John Johnson," or "This one was bred by Huckleberry Hill Poultry Yards." To the average observer the sixty-five cockerels were like so many sparrows on a telegraph wire. To the expert there appeared little points of difference, but there had been such a blending of types and apparently such an intermingling of strains that one breeder I saw had to get a catalogue to find his own birds.

This is a long stride in the right direction, although not done with intent, and the reason is not hard to find. The impression has prevailed that the largest eastern breeders of Barred Rocks never let go of their best stock and eggs. This is not true and the very facts that I have just stated are the best possible proof that they do. Every breeder who has been successful in winning first prizes at New York or Boston has had the same experience. Let "Clover Top Poultry Farm" win first cock or first cockerel at New York and in less than six weeks the proprietor has had an opportunity to sell every brother, sister, uncle, aunt and cousin of this bird at one hundred dollars each or less and has booked orders for more eggs from the pen headed by the winner than ten hens can lay by working nights and Sundays. For a time he congratulates himself upon his good sales. Then some fine morning he awakes to realize the fact that half a dozen of his competitors have in each of their yards more of the blood of the winner than can be found at "Clover Top." Later he goes to New York or Boston and is beaten by a cockerel hatched from an egg from his own yard, or raised from a pair of birds he sold. For years the same game has been played. The volume of business has followed the winners at New York and Boston, and the buying has not been confined to the little fellows. Far from it. The man who exhibits once at New York gets the show microbes into his system in such numbers that he is willing to make almost any sacrifice to win, so he is always a good buyer. At the present time, to the best of my knowledge and belief, there is no such thing in this country as a "strain" of any variety bred strictly pure and without the introduction of blood from some outside source.

As has been stated before, the largest volume of business in all breeds follows the winners at the large shows. Bearing this in mind we can easily see how in the last ten years different distinctive types of Barred Rocks in the east have gradually disappeared or been merged into one near Standard type now bred in a greater or less degree of perfection by all the prominent breeders. It cannot be said truthfully that any one strain gained complete ascendancy. Rather have the best qualities of each strain been retained and gradually incorporated in each other strain, the worst defects of each in like manner having been eradicated in a large measure. This being true no one breeder can claim all the credit for the wonderful (I use the word advisedly) improvement made in the last ten years. While each has worked for his own interests primarily, he has contributed more or less to the general results.

DOUBLE MATINGS

Years ago, I do not know just how many, several earnest breeders made the discovery almost simultaneously that the mating which produced the best colored females seldom,

if ever, gave them their best colored males, so darker matings began to be made and soon the breeders who mated their dark, narrow barred females to their prize winning males began to win all the prizes. From a mating of this kind Bradley Brothers one year produced males so superior to the average Barred Rock of that day that they easily won 1, 2, 3, 4, 5 cockerels, at New York.

I know of no successful exhibitor or breeder of this variety at the present time who does not breed his exhibition males from females much too dark for the show room. If we compare feathers from a down-to-date, cockerel-bred female, with those from a female of standard or exhibition color, we find this difference—the bars on the standard colored female are but little wider than the lighter spaces between the bars. The Standard asks for them the same width but we seldom find them that way. The Standard describes the ground color as "grayish-white." In the best cockerel breeding females the dark bars are almost black and should show a green sheen or metallic luster. The bars are much wider than the lighter space between, varying in this respect in different sections from double to three times the width of the lighter spaces. The ground color of the feathers in a cockerel breeding female instead of being "grayish-white" should be very dark, probably best described as slate. Females of this color mated to standard colored males of the same line of blood will produce cockerels of the sharp, bright color and narrow barring described in the Standard. A few breeders who are for unknown reasons opposed to the double mating plan contend that it injures the value of the variety from a utility standpoint. To the best of my knowledge, a pen of cockerel-bred females will lay just as many eggs as a pen of standard color, and although I have eaten cockerels bred from both double and single matings I have never detected any difference in the flavor of the flesh.

Another color section where much improvement has been made is the eyes. Time was when to perpetuate some characteristic or quality in the flock the breeder of Barred Rocks would use a male with green or pearl eyes if he possessed other good points in sufficient numbers. Males with pearl eyes often were seen in the show room exhibited by experienced breeders. Very few pearl-eyed birds are now exhibited and I believe they are seldom used for breeding purposes. One does not often see a male that is poor in leg color now-a-days, although the females from which the best colored males are bred are very liable to have a large amount of black or dark color on legs and feet.

MOULTING QUALITIES

One of the hardest propositions the breeder of Barred Rocks was called upon to work out was that of retaining in the yearling or two-year-old cock bird the narrow barring and deep under-color found in cockerels. Many a fine cockerel came in after the moult so coarse in surface barring and showing so much white in under-color as to be almost worthless as a show bird. Some strains moulted much better than others. Now a large percentage of the good cockerels from the leading strains moult into good cocks and we sometimes see a yearling cock almost as fine in barring as when he was a cockerel.

One of the hardest sections to retain good in old males was the tail. Many birds that never as cockerels showed any white at base of main tail feathers or sickles, after the first moult were not fit to exhibit on account of this defect. Much has been accomplished along this line in recent years. At New York, Boston, Chicago and other large shows last winter the classes of cock birds were better than had been seen before taken as a whole. At New York there were not only five good ones to wear the ribbons but there were twenty more close up, uncomfortably close in fact. One breeder refused \$100.00 for an unplaced bird.

Two of the best examples of good moulting males seen last winter were the first prize cock at New York and the second prize cock at Boston. Both of these cocks were almost as good in surface and under-color as when shown

as cockerels. They not only retained the straight fine barring so seldom seen in cock birds ten years ago, but they also possessed, in a remarkable degree, the uniformity of surface color that has been so hard to secure in males of that age.

PLYMOUTH ROCK SHAPE

Under the present Standard the tail of a Barred Rock male should be carried at an angle of fifty degrees. This has all along been considered too high by many of our best breeders. It gives the bird too much of a Wyandotte back. Many of the best specimens shown at New York during the last five years have been an improvement over the ideal cut in this respect. Some have carried their tails at thirty-five and forty degrees. The new Standard will specify that the ideal shaped tail shall be one carried at forty-five degrees from the horizontal. Some of the breeders present at Niagara Falls favored a still greater change in this section, and I have no doubt that five years from now when the Standard is revised again forty degrees will be substituted for the forty-five recently adopted. The tail coverts on a Plymouth Rock male carrying his tail at an angle of forty degrees, carry back and cover the main tail feathers much better than on one with a tail carried at forty-five or fifty degrees. A male of this breed with a tail carried at forty degrees presents a much more symmetrical appearance, other sections being equal, than does one with a higher tail. This also gives us a bird that looks longer in body and separates the Barred Rock type farther from the Wyandotte type.

Perhaps no greater improvement has been made in any shape section during the last ten years than in that of comb. Not so very many years ago first prize ribbons were often placed on males with combs ugly in the extreme, simply because the possessors had the fine barring and color found at that time in so few specimens. I well remember selling a narrowly barred bird of good surface and under-color to a customer in Canada about ten years ago. I parted with the bird for \$5.00 for the reason that he had a comb of almost Leghorn proportions with seven well-defined serrations. Later to my great surprise he won first prize at several of the largest Canadian shows under different judges. He won on his barring and color, which at that time were considered almost phenomenal. Males the equal of this one in plumage can be found by the dozen now in almost any breeder's yards, and one handicapped by such an ugly comb would not be considered for a moment at any of our best shows. Ten years ago an exceedingly small percentage of Barred Rock males had even passably good combs. They were often coarse in texture, unevenly serrated and not well balanced on the head. Now one seldom finds a cockerel that has to be thrown into the market pen for a defective comb. In the New York show last winter there was not a cockerel that I can now recall that had a comb deserving a two-point cut.

Although there has been much accomplished in the past by way of improving Barred Rock males, both in color and shape, I do not wish to convey the impression that they are yet within dangerous proximity to perfection. The 96-point Barred Rock male is still a long way off.

SHAPE DEFECTS

What are some of the most serious shape defects with which we still have to contend? There has been a demand from some sections of the country for large, overweight birds. Some buyers have even asked for ten pound hens and twelve pound cocks. To meet this demand some eastern breeders began trying to increase the size of their birds. As it is comparatively easy in this climate to grow large Plymouth Rocks, they were in many instances more successful than they anticipated and the result was that in some flocks many of the cockerels refused to grow feathers until four or five months old. Even when hatched in March they could not be put in show condition before January or February, and at the age when a Plymouth Rock male should be practically mature they were simply

long-legged, pin-feathery chickens fit neither for the pot, the show room nor the breeding pen.

The pullets from the same matings required from ten to eleven months to reach the laying point and then were only indifferent egg producers. Those who made the mistake of getting these oversized birds into their flocks have realized their error and are trying to weed out the long legs and thin bodies. It will require some years to do so. The male of Standard size is best both from the standpoint of utility and fancy. The overgrown Barred Plymouth Rock male is nearly always deficient in breast shape. This is due many times to a too short keel bone. No doubt this section will be greatly improved before the next revision of the Standard.

COLOR DEFECTS

It is a well-known fact that English breeders of Barred Rocks prefer a much darker bird than is usually selected to wear the blue ribbon in American shows. One of the best extremely dark males ever seen in the east was shown at Madison Square Garden, 1908, by Grove Hill Poultry Yards. Although much darker than the accepted shade, this male was very free from foreign color and attracted much attention from breeders present. On account of his shade of color he was not placed at New York, but was sold there to a prominent English fancier. I have no doubt he proved invaluable as a breeder. The preference at New York has nearly always been given to birds of a medium shade of color.

In this connection I wish to say that the breeders of Barred Rocks the country over owe much to Mr. P. H. Scudder who judged this variety at Madison Square Garden so many years. Mr. Scudder always consistently kept the clean, soft shade of color in mind in awarding prizes on males and refused to place those birds showing a great amount of metallic color or bronze in any section. To Mr. Scudder more than to any other man belongs the credit for placing the Barred Rock class at Madison Square Garden in the enviable position it now occupies. The winners at New York are the "near ideals" from which standards are made and other shows are judged.

Several years ago, on account of poor health, Mr. Scudder was compelled to give up the judging at New York, for it is a tremendous task to judge the Barred Rocks there and do the work well. Since that time other judges have let down the bars to an occasional male showing foreign color. This has been chiefly noticeable in tail coverts of some of the cockerels. In one or two instances, however, males much too dark and dirty in color of back and shoulders have been awarded high honors. This is to be regretted. The high standard set by Mr. Scudder should be maintained. Ten or fifteen years ago it may have been necessary to breed from males muddy in color. It is no longer either necessary or advisable. The dark male shown by Grove Hill Yards was of proper color, but too dark a shade for exhibition. Such a bird will often breed better males than a bird of lighter shade, but a male showing bronze or a muddy brown color in back and shoulders will breed cockerels showing the same defect and should never be used. It is hard to breed this out of a strain.

Perhaps the hardest section to breed true to color in the male is the wing. Cockerels bred from the most carefully mated pens many times show slate color in primaries and secondaries. This tendency can be overcome in time as have other equally serious defects by careful selection and proper mating.

PROGRESSIVE BREEDING OF BARRED ROCK FEMALES

Ten-years have wrought many changes in Barred Rock females. These changes would be very apparent if we could compare the birds of ten years ago with those seen in our largest shows today. Some of these changes have been for the better, some a step backward. All things considered, the winners of the present time are better than the winners at the best shows held previous to 1900. There has not, however, been so great an improvement in the



C. H. LATHAM'S BARRED PLYMOUTH ROCK BREEDING PEN.

The above photographic illustration conveys an excellent idea of the color markings of one of the most famous pullet breeding strains of Barred Plymouth Rocks in America. Mr. Latham's great success in breeding winning pullets and hens at the New York and Boston Shows has been the result of the most careful selection of females and males having color markings that will produce type and which excel in evenness and sharpness of barring as well as in bright surface color.

females as in the males. The winners at all our large shows are, I repeat, unquestionably better than the best found ten years ago. The first and second prize hens at New York last winter were narrower barred than were the first prize hen and "Helen of Troy," winner of second prize at New York 1898. They were also darker in color.

It is hard to carry type or color in one's mind ten years, but it seems to me that we are losing some of the indescribable bright color that is so attractive when found in a Barred Rock female of quality. A few years ago the best females found either in the show room or pens of our best Barred Rock breeders were comparatively coarse in barring, but they were as bright and clear in color as a new silver dollar.

MIXING THE BLOOD LINES

About that time a few narrower barred females began to appear at New York and other shows. They lacked in nearly every instance the brightness of the coarser barred birds, but, nevertheless, were usually awarded the prizes. There is no question but that these first narrowly-barred females were the direct result of a cross with cockerel-bred birds. Many experiments were being tried, about that time, in introducing blood from the cockerel line into the pullet line. The greater part of these experiments were made with standard colored males and standard colored females and so far as I know resulted in failure. Some breeders in this manner ruined their pullet lines and had to begin at the bottom again with new foundation stock. A few used narrowly barred cockerel bred females mated to pullet bred males and in this manner were successful in producing pullets finer in barring and occasionally one clear enough in color to show. It was usually necessary to make the second cross before the proper color could be obtained. For example, the writer won third prize on hen at Madison Square Garden 1899. This hen won over some of the most noted eastern winners. She was twenty-five per cent. cockerel bred. Her mother was fifty per cent. cockerel bred, the result of a mating of a clean colored cockerel bred hen and a pullet bred male. In 1900 the second prize pullet was a daughter of the third prize hen of 1899. I do not know of a pullet bred strain or line of any prominence at the present time that has not had more or less cockerel bred blood introduced during the last ten years. What has been gained by it?

"Fluffy Ruffles," twice a winner at Madison Square Garden, is no doubt the best Barred Rock hen ever seen to date. The other winners at New York last winter were close up to her in quality. The winning hens at Boston, 1909, were all good, probably better than any five ever exhibited there, at one time, before. The first prize pullet at Cleveland last winter was a beautiful bird. Nothing like her could be found in the country ten or fifteen years ago. The best females to be found prior to the year 1900, were more or less irregular in barring of hackle. In many of the best of them the barring was coarse and the light spaces between the bars in this section were much wider than the bars themselves. So far as fineness of barring is concerned, there has been a distinct gain. This much has been accomplished, but there still remains the serious question of color.

In every show room we find females narrowly barred, but too dark in shade of color and too dull in finish to be considered for a prize. We find the same condition in most flocks. In the frantic effort to breed a "Fluffy Ruffles," or a duplicate of Mr. Chas. H. Latham's first prize hen at Boston last winter, the color of many a whole pullet line has been sacrificed. This has been carried to the greatest extremes by breeders less skillful than the owners of the two females just mentioned. I believe that there is not a pullet line in America today that has not lost in brightness of color as a result of the struggle for supremacy in the matter of narrow barring.

True, the best of our winners are possessed of the bright, snappy color we desire, but how many dull, dingy ones did we breed to secure the one phenomenal one? If it is true that the best of our winners are far superior to any

ever seen previous to ten years ago, it is also true of every female line with which I am familiar that the percentage of off-colored pullets is much greater than before the attempt was made to produce the extremely fine barring the fashion now demands in the winner. In short, to secure a few phenomenal birds we have introduced into our flocks a disturbing element, something that will require some years to breed out entirely.

IMPROVEMENT IN PULLET BRED MALES

There has been a much greater improvement in the pullet bred males, that is, in the general average, than in the pullet bred females. Some wonderfully fine pullet bred males have been exhibited at New York since special prizes have been offered there on cockerel and pullet breeding pens. Males rivalling the best birds of standard color in narrowness and uniformity of barring, have been shown and are being used as breeders. It is comparatively only a few years since pullet bred males with zigzag barring in all sections, were used to breed exhibition females. They were very light in shade of color—in some instances almost without any trace of barring in wings and at base of saddle feathers. It is not uncommon now to find them barred to the skin in nearly or quite every section. Without question, by careful selection and scientific mating, the narrow barring we now have in the female lines can be retained and the bright, clear, attractive color secured in a much larger percentage of the flock that at present, if the craze for narrow and still narrower barring is held within reasonable limits.

It is high time to call a halt, however. Finer barring than we already have in our best females is not practicable or desirable. To breed for it is to sacrifice the shade of color and wing markings as well as color of legs and beaks. We may obtain one freak bird with the Hamburg narrowness of penciling, but in order to do so we have bred ninety-five per cent of the pullets so dark and dull as to be worthless as exhibition specimens and impaired in value as breeders. Judges should not encourage the breeding for fine barring at the expense of color. A female having nothing to recommend her but narrow barring, should not win over one a little coarser but possessing the clear, bright color that is the chief beauty of a Barred Rock female.

STANDARD CHANGES

It is very seldom that a Plymouth Rock pullet that has laid her first egg can win over one of equal quality that is not quite so well matured. They are usually in their best show condition just before they begin to lay. At this time many pullets that afterward make standard weight hens do not weigh more than six pounds. For this reason the Revision Committee considered it advisable to recommend that the weight for pullets of all varieties of Plymouth Rocks be reduced from six and one-half pounds to six pounds. This change was adopted at Niagara Falls.

In the present Standard the description of back of female reads as follows: "Broad, rather long, rising with a gentle incline to tail." This description might apply to a fowl with the back line perfectly straight from neck to tail, whereas our best females show a slightly concave outline. The back description in the new Standard will read as follows: "Rather long, broad its entire length, flat at shoulders, rising with a slightly concave incline to the tail."

If one will study the shape description and ideal cut of the Plymouth Rock female and compare them with the shape description and cut of the Wyandotte female it will be readily seen that there are few points of similarity between the two. The Standard describes both the body and back of the Plymouth Rock as "rather long" and makes no provision for a cushion. The Wyandotte Standard, on the contrary, describes both the body and back as "short" and further describes the back as, "rising in a concave sweep to a broad slightly rounded cushion."

With so wide a margin of difference it would seem that no breeder or judge need confuse the two types. It is a lamentable fact, however, that during the last five years

Barred Rock females bearing no shape resemblance to either the ideal cut or the printed description, have carried off highest honors at New York, Boston and Chicago. That they were beautifully barred no one will deny, but what will be the effect on the amateur who for the purpose of learning more of the breed, attends a show where the awards are placed on Wyandottes in Plymouth Rock garb?

For the last two winters at New York there has been very little to criticise along this line as the winners were of good type, but previous to that, on one or two occasions, the decisions were apparently made on color and barring entirely, without reference to shape or condition. One of the winning females at Chicago last winter, 1908, although of good color and barring, was far nearer the Wyandotte type than the Plymouth Rock in length of body and back shape.

The Plymouth Rocks, as described in the Standard, come very close to the best utility type both for egg production and table fowls. They should be bred close to that type. A female approaching the Wyandotte in shape, no matter how narrowly barred or attractive in plumage, should never be selected as the best representative of the variety in a show where there are plenty of typical females. The judge who commits this error starts many an inexperienced breeder on the wrong road and gives him much work to undo in the future.

BREEDING FOR EXHIBITION

Though much has been written upon this subject, hardly a week passes without bringing a letter from some one who asks the meaning of the term "double, single and standard matings," or from some prospective purchaser who asks for a pen of birds mated for "both exhibition and breeding." Now I wish it understood that I do not pose as unfailing authority on breeding Barred Rocks, neither is this article written for the benefit of those who have bred them for forty years and "know all about it." During the years in which I have been breeding this variety I have made many mistakes and have learned many (to me) useful lessons.

If anything I can write or say will be of help to one who is beginning the breeding of exhibition Barred Rocks I shall feel well repaid, as I found as a beginner that very few of the men who "knew how" were willing to give information in regard to mating for best results. After following some of the advice I have received I was ready to agree with Josh Billings that "it is better not to know so much than to know so much that isn't true."

A large majority of the leading eastern breeders use the double mating method, while a large number of western breeders use the single mating, some even advertising to breed from "standard matings." As a single mating is not necessarily a "standard mating" we will take up the question of "standard matings" first. What is a "standard mating?" There can be but one answer to this question if the term means anything. A standard mating is a male of standard color mated to a female of the same color. Now everyone who has ever bred Barred Rocks knows that the cockerels will be much lighter in color than the pullets from the same mating, and their under-color will not be so strong, so when we mate a standard or exhibition colored male to a female of the same color, we are doing so in direct opposition to nature's laws.

Whether nature made a mistake in this matter, or whether the mistake was made by the men who made the Standard, I shall not at this time try to discuss. It is sufficient to say that a mistake has been made, and we are confronted by these conditions, namely, the standard calls for a male and female of the same shade of surface color, and on both male and female each feather must show the barring the whole length of the web of the feather, in other words, be barred to the skin, while nature refuses to produce two such birds from one mating. I do not say that it cannot be done, as man has accomplished many seemingly impossible things, but I do say that I never saw two strictly standard colored birds, both male and female,

produced from one mating of Barred Rocks, and I do not believe that it has ever been done. I will go further and say that from a straight standard mating I never saw a first-class bird of either sex produced.

I have seen fairly good birds produced from the mating of a standard colored female and a male a little lighter in surface than standard but with a very light under-color. Remember that it is not enough that the male be of the same surface color as the female; a standard male must be barred to the skin or else he is not a "standard colored" male.

I began breeding Barred Rocks with the idea that all I



One of the finest Barred Plymouth Rock cockerels ever produced. He was excellent in type, having a very modern back and tail carriage, but in color and ringy barring he excelled greatly. We do not recall having seen his equal in this respect, and as the above study shows him, he was a bird of merit in every way.

had to do was to get the best standard colored male that I could buy and mate him to a good exhibition hen. Others have made the same mistake.

From such a mating as this the pullets will almost invariably be smoky and dark in surface color owing to excess of under-color. With all due respect to the men who use the so-called "standard mating" I cannot believe that one of them uses such a male as the present standard describes and gets high scoring birds of both sexes from the mating.

SINGLE MATINGS

I have used each year four or five pens mated on the single mating plan, and have had fairly good results. From these matings I have obtained some very nice pullets and some fairly good cockerels. The cockerels, many of them, were fine in surface color and some were fairly good in under-color. But from the matings that gave the best

cockerels, the pullets were not so good; and from the matings that produced the best pullets, the cockerels were lacking in strength of under-color. For my single matings I select a male perhaps two shades lighter in surface than a standard bird, showing good under-color on breast and in hackle, with the barring in hackle and tail coverts fine and straight across. To this bird I mate females that are standard color, but with the barring fine and holding its strength well down to the base of the feather. In birds for single mating I like to have each feather end with a dark tip, black, if you please.

At the Rochester, N. Y., show in the winter of 1899-1900, I exhibited a yard of birds, a male and four females, all from eggs of one hen and from one sire. They were from such a mating as I have described, and the five birds were of the same surface color, or so nearly alike that no one could tell whether the male should be darker or lighter to match the females. The male was a little too coarse in barring and his under-color was not equal to the surface color. This, in my opinion, is where the single mating fails. In order to breed cockerels with every feather barred to the skin, or in other words "standard" color, a female that is finer and darker than standard must be used.

DOUBLE MATINGS

As I use both double and single matings in my yards and have carefully compared results, I find that for producing exhibition birds to win in the best shows, the double mating method gives by far better results. It is much easier to kill one bird with a stone than it is to "kill two birds with one stone," so it is much easier to mate up a pen of birds with one object in view than it is to mate up the same pen with two objects in view. For several years I have attended some of the largest poultry shows in the east and I have never seen a male bird from a single or standard mating win a prize in any strong competition.

For my cockerel matings I use the best exhibition colored males I can raise or buy. Some breeders never buy any birds, but always raise them. This is a good plan, perhaps, but I confess that when I see a better bird than I own, if I have money enough and know that the bird's breeding is right, I buy him. I believe that my yards produce their share of the good ones each year, but if I find a good bird that will fit in well in my yards, I am not afraid to buy him. This is a benefit to my customers, as well as to "the other fellow" who sells the bird.

After selecting the male birds I look my females over for the right ones to mate with them. My ideas on this subject may not be considered "orthodox," but I care very little for the color of the female if her brothers, sire and grand sires were fine exhibition birds. I frequently use females so dark that they show very little white in wings and so fine in barring that they have a smoky appearance, and from such get my best and cleanest colored

cockerels. These females usually have dark on legs and beaks, but the cockerels come all right in that respect, and are much better in barring than those from clean standard colored females, with yellow legs and beaks.

For my pullet matings I select females as near alike in color, size and shape as possible. If they are standard color I select to mate with them a male that is quite light in surface and not too heavy in under-color. I want this bird to show straight barring in hackle and saddle, but care far less what his surface color is than I do for the color of his sister and dam. If the sisters and dam of this male are clean in color and nicely barred under, I care not if the male himself is what is sometimes called a "cotton back." He will breed much better pullets than one with barring to the skin. I have in my yards a cock bird that has a white feather in each wing, and some of his tail feathers are white half way up, but \$50 would not buy him, for he has sired some of the best females I ever saw and not one of them has ever shown any weakness in barring of tail or in wing. With some breeders such a bird would be thrown out of the breeding yard at sight, and four or five years ago I should have sold him for fifty cents, but I have learned by experience dearly bought that such a male, with good pullet blood to back him up, is far more valuable as a breeder than one nicely barred all over, but with no breeding back of him.

Now a mistake that the amateur breeder is very liable to make, is in trying to buy or breed birds two or three pounds above standard weight. If you wish to breed the highest type of exhibition birds, do not breed them up to the size of a turkey. What you gain in size you will lose in shape and plumage every time. I believe that the present standard weight of Barred Rocks is one-half pound too high on cock, hen, cockerel and pullet, both for exhibition birds and for utility purposes. It is very easy to breed them up to eleven and twelve pounds as cock birds, or to eight and one-half to nine for hens, but to what purpose? A twelve-pound cock is clumsy and awkward in the breeding yard and is nearly always a poor breeder. A hen that weighs nine pounds is always a poor layer and her eggs seldom hatch well. Why should the breeders of Barred Rocks try to compete in size with the breeders of Cochins and Brahmas? The type of Barred Rock that is winning in our best eastern shows is a bird of medium size, somewhat Wyandotte in shape, if I may be allowed to use the term, with the difference of a little more length of body necessary for the extra weight. I believe that this is as it should be, and that a bird two pounds above weight should be cut as severely in the show room as a bird two pounds below weight. There is much for all of us to learn in regard to the breeding of Barred Rocks, and there is much chance for improvement in this grand breed. Let us do what we can to breed them nearer to standard requirements instead of each trying to breed a type or strain of his own.

Utility Barred Plymouth Rocks

By F. W. BRIGGS, Maine



WE take it for granted that the larger part of the articles you receive about the mating of Barred Plymouth Rocks will be along the lines of fancy matings for producing exhibition specimens, hence, I will confine my few remarks to methods used in making up utility matings, for our work is equally divided between exhibition and utility lines, and I believe that a little said on the utility side will be acceptable to a part of your readers.

The larger part of utility matings are, of course, single mated. We use a single plan of mating in our utility line, but it is not the single mated plan. There is a tendency for all utility flocks to become darker and darker in color each year unless some effort is made to prevent this. The most practical method we know of to overcome this trouble is to use light pullet breeding cockerels; in other words, to practice what is called pullet mating.

Nine out of every ten birds in the utility flock are, of course, females, so it would seem wise to use every effort to keep these about the right shade. There is no better way than by practicing pullet mating, a mating made up on the same plan as the pullet mating of the producer of exhibition pullets, although, of course, there is not the necessity to be so particular in the selection of pullets of the exact shade. The more care there is taken in this respect, however, the better the results will be.

A good many poultrymen breeding for egg production think that there is nothing further to be sought than eggs. It seems to me they are short-sighted. The failure to recognize the importance of good color, good shape, good barring and other Standard requirements and to strive to attain them, even in a utility flock, is the result of sheer laziness or carelessness and results very much to the detriment of the variety. Such methods do not indicate a good breeder. Of course, it is more difficult to breed for excellence in both egg production and color than to breed for one quality alone, but we believe the extra effort to keep the color of a utility flock up to Standard brings ample returns in the greater satisfaction there is in owning such a flock or in shipping birds from it to one's customers.

The day has passed when so-called 200 egg strain birds carelessly bred for feather, shape and color, and vitality as well, can be palmed off on the public as thoroughbred poultry. The ordinary buyer knows today that he can get birds of equally good laying ability that are also bred somewhat closely to the Standard and he is going to have them. I do not mean that breeding for looks should be done at the sacrifice of the utility qualities and I see no necessity for such breeding. There is as much danger of the buyer getting so-called mis-named utility birds that are really only culls from show stock that has been bred for feather, regardless of utility qualities, as there is danger in the other way. The term utility stock means something. It means stock that will pay a profit in meat and eggs, but this profit may be materially increased if the stock is of such superior quality in Standard requirements that there is a natural demand for eggs for hatching and for breeding birds from it.

I believe every utility breeder will find it a good investment to select good, well-banded pullet breeding males for his matings, birds that are from a strain of good utility qualities, even if he has to buy such birds each year and pay good prices for them.

In the selection of the male, the bird of a solid, blocky type that is heavy for his size is usually the best. A bird that is erect in carriage, snappy in disposition as well as barring, that has a good, short, stout beak that jabs a hole in your hand when you catch him instead of hollering, is the kind to select.

The selection of a good male for the utility pen obviates the painstaking selection of females as far as color is concerned. There is no necessity to carry the matter of color to extremes, although extra care in this direction will, of course, yield proportionable results. We do not want to use females that are too smutty in color, that are white in the hackle or that are freakish in any respect. The main thing to look out for, however, is to get birds of good vitality of what we might call the egg type.

We believe it is generally conceded that there is no established egg type of the domestic fowl. We certainly know of no such type in Barred Rocks and there probably has been a more successful development of egg producing qualities in this variety than in any other. At the same time in selecting females for the pen we have an ideal in mind and we will try to describe it. She is a bird that shows great vitality in her general actions; she has a bright eye, good, rounding shape, a wide head and solid beak, good carriage, long back and a wide stern. It is difficult to describe adequately just the bird we have in our mind's eye. Briefly, will say we want a bird that will look in place in the show room. Have long maintained that the show type of female as exhibited today is the best type of utility bird.

We do not select females that are extra large in size for our matings, because we do not believe they make either very good layers or good breeders. We get the best results from medium sized, closely built birds. Nor do we allow an undersized bird in our pens, no matter how good a layer she may be.

And we are not so keen about selecting the heaviest layers for our breeding pens. We believe it is better to maintain the vitality of the flock and to attain as high an egg production as is consistent with retained vitality. The results of years of experiments at the Maine station have shown that the heaviest layers are not bred from the best layers, but from the average layers that have plenty of vitality. To breed continually for eggs alone from the heaviest layers, regardless of constitution, can have but one result, namely to weaken the vigor of the flock and to reduce the average egg possibilities. Many failures, I understand, are due to inability to reproduce the flock each year. It would seem to be wise to avoid such failures by carefully encouraging health and vitality in the flock and by refraining from forcing measures in the breeding pens.

To maintain successfully, good color, good vitality and also good egg production and good size in the flock, means much in the way of careful judgment, patience and work. It also calls for unmerciful culling and the constant keeping in mind of the object in view. It is more difficult than the simple method of breeding for eggs by means of trap nests, but the result is most desirable—the successful accomplishment of the work is more creditable. The use of the pullet male—a male bred from the pullet line—will be found of great assistance. Remarkable changes in the color of the flock can be brought about in a single generation.

Barred Plymouth Rocks As Layers

Remarkable Pullet Record of 148 Eggs in 148 Days. Hens with Long Deep Bodies Outlay Hens of Short Heavy Bodied Type. Proper Selection of Breeders Essential in Establishing a Laying Strain. Egg Yields of Pullets, Yearlings and Two Year Olds Compared. Food, Care and Housing of Great Importance

By J. W. PARKS



HERE can be little doubt that there is a certain type of fowls in all varieties that, if given a little encouragement and good care, will lay more eggs in a given period of time than an equal number of some other type. We cannot claim that type alone makes the layer, yet it is not reasonable to believe that the hen bred along similar lines (comparatively) to those used in perfecting Holstein,

Swiss, or any of the heavy milk breeds of cattle, will be more apt and better fitted by nature to produce eggs than a hen bred (in comparison) as are Short Horn cattle with no special regard as to the quality of milk given.

Since 1889, I have kept persistently in mind the selection of breeders with a view to building up a strain of bred-to-lay Barred Plymouth Rocks. At first I did not have the advantage of trap-nests and records of laying qualities were kept only by means of averages from an entire flock. By keeping careful watch I was able to select for breeders each year, birds possessing what appealed to me as desirable characteristics for good egg production. These selections in the course of a few years so increased the average egg yield that this fact, together with my experience, in subsequent years of trapnesting and line breeding, has convinced me that there is an egg type.

I have found that the hen with the rather long deep body, with plenty of room between the legs, will outlay a hen of the short deep heavy bodied type nine times out of ten. In making this claim for a hen of this type, I will have to admit that this hen, with the long deep body and ample room for eggs, has as much more room for fat as she has for eggs, more than has her sister of the opposite type. If given half a chance during her moulting or non-laying periods this egg type hen will, if fed freely on fat

forming food, take on fat quickly, break down behind and soon cease to be a profitable layer.

The overfat hen, as a rule, is not the laying hen, but, if a little care and judgment is used in feeding, the hen need not necessarily become too fat. Plymouth Rock hens like most females of the American Class should not be fed heavily on corn at any time except during periods of prolific laying. One frequent cause of trouble in feeding for egg production is that breeders are often apt to grow careless in handling the breeding stock as soon as the breeding season is over they are obliged to devote a considerable share of their time to the care of young stock.

AVERAGE AND ACTUAL EGG YIELDS

Breeders of different varieties may differ as to what is considered a really good egg yield. It should be understood that I am speaking particularly of Barred Plymouth Rocks. I have found that 190 eggs a year is a fair average for the pullets of this variety, with 170 eggs per hen for yearlings (equal in weight to about 180 pullet eggs) and 150 eggs per hen for two-year olds. These latter would probably equal in weight from 165 to 170 pullet eggs. The best actual individual record egg yield I have obtained was 255 eggs in 365 days.

With this article is shown an illustration reproduced from photographs of three generations of line bred-to-lay females, Altoona Girl First, Second and Third. This well illustrates my idea of egg type. Study of the pictures will show the remarkable faithfulness to type and the strong family resemblance of grand-dam, dam and daughter as viewed from left to right. The grand-dam Altoona Girl First, band No. 316, made a record of 203 eggs in 365 days. The dam Altoona Girl Second, band No. 504, made a record of 212 eggs in 365 days, and the daughter Altoona Girl Third, band No. 1113, gives promise of excelling records of



Altoona Girl, First

Altoona Girl, Second

Altoona Girl, Third

THREE GENERATIONS OF HEAVY LAYERS

Ideals in "Egg Type" bred and owned by J. W. Parks, Altoona, Pa. Note how faithfully the family resemblance and type has been transmitted. Photographs were not retouched.—Ed.

either dam or grand-dam. Her laying year is not up until December 31, 1910.

"Viola", whose picture is shown on page 16, is another illustration of my ideal in egg type. Her laying record for one year is as follows: February, 23 eggs; March, 27; April, 24; May, 23; June, 21; July, 12; August, 18; Sep-



"Viola," another illustration of Mr. Parks' ideal in egg type.

tember, 13; October, 8; November, 24; December, 20, and January, 23. A total of 236 eggs in 265 consecutive days. She was broody three times but never lost over ten days.

REMARKABLE PULLET RECORD

I have frequently been asked how many days will a hen lay without missing a day. In answer to this question let me present the following affidavit from one of my customers giving proof of remarkable continuous laying in a bred-to-lay pullet.

STATE OF PENNSYLVANIA,

COUNTY OF McKEAN:—ss.

Port Alleghany, Pa., Aug. 23, 1910.

Mr. J. W. Parks, Altoona, Pa.

Dear Sir: I have a Barred Plymouth Rock Pullet, hatched from eggs bought of you, which began laying January 31st, 1910. She laid two eggs then missed one day, then laid 148 eggs without missing a day, and up to this date, Aug. 23rd, 1910, she has laid 185 eggs. This record was made without any forcing whatever.

D. R. Morgan.

Sworn and subscribed to before me

this 24th day of Aug., 1910.

C. W. Catlin, Notary Public.

Barred Rocks usually reach laying maturity when six months old, but pullets that do not begin laying before the seventh month make better breeders in the end. I do not consider them mature enough to breed from prior to eight months old for females and nine months old for males.

FOOD AND CARE

While it is important to give the stock good care throughout the entire season, especially good care and good management are absolutely necessary in handling the birds during the breeding season. I keep my birds well supplied with grit, oyster shells, charcoal and coarse bran in hoppers at all times. In the morning they have a mash composed of 2 parts bran, 1 part corn chop, 1 part ground oats, 1 part "white" middlings, $\frac{1}{2}$ part short cut clover steamed, 5 to 8 per cent. meat meal and a little salt. This is mixed so no water can be squeezed out and the birds are

allowed all they will eat up clean. At noon they are given wheat; with corn and oats for supper. These rations vary somewhat with the seasons. There are no iron-clad rules to follow, but one must be governed by the weather and the condition of the stock. We all know that it takes more heat forming food in winter than it does in summer, and for that reason I feed a little more corn during the really severe weather.

As Barred Rocks take on fat more readily than some of the lighter breeds, one has to be careful about feeding corn too plentifully, and I have found wheat to be the safest main or staple food, while oats are very good also, especially for young stock. I keep the water crocks well filled with water, with the chill taken off in winter, and at this season give the birds green stuff to work on such as mangels, cabbage, and sometimes boiled potatoes. I do not feed meat scrap in hopper as I have found that it gives better results when mixed with grain, using only the best meat scrap, which to be good must have very little pork in it. In feeding I aim to always have the hens go to roost with their crops full.

In deciding on breeds for layers one is often asked the comparative amount of food different varieties will consume. It has been repeatedly proved that fowls of the small varieties will eat just about as much in a day as fowls of the heavier breeds, but under the same conditions of housing and feeding they give widely different results. Right here is where the value of scientific breeding for the utility points comes in.

The cost to hatch and grow a Barred Plymouth Rock chick to laying age is governed by surroundings, the number of chicks and the method of raising, but 35 cents to 50 cents each is a fair estimate where everything has to be purchased. The cost of keeping a mature specimen for one year will average from \$1.60 to \$1.75 each bird, which does not vary greatly from the smaller varieties.

HOW THE CHICKS ARE FED

In growing the chicks I first feed them hard boiled eggs, mashed in sand and corn meal, and crack food composed of fine sifted cracked corn, cracked wheat, oatmeal, charcoal and grit. Whole oats are given as soon as they will eat them. Oats and coarse bran are kept in the hoppers before them at all times if on free range. At this stage



Type of cockerel from bred-to-lay stock.

they are given mash in the morning, wheat at noon and corn at night. No beef scrap before them, but 5 per cent. beef scrap in the mash and plenty of opportunity to get bugs and worms to balance up. They are induced to exercise from the word go, for the healthy profitable chick is always the hustler. They are given plenty of fresh air,

without draughts and provided always with a dry place to roost. Roosting on a tree is far preferable to a damp, tumble down coop for a roosting place. The sexes are separated as soon as the males begin to bother the females.

I believe the greatest care and judgment should be exercised in moving the stock from the growing houses into winter quarters, as many times they are then crowded and the houses poorly ventilated. Don't shut the houses up the first few cold nights, as the birds need plenty of good fresh air and if draughts are avoided there will be no danger from cold. Dampness in houses must be avoided. Plenty of fresh air at all times and no crowding is the best preventive.

OPEN-FRONT HOUSES

I use an open-front house, with muslin frames to close in stormy weather and allow sufficient roof projection in front of the house to keep out storms from the east, giving them from 7 to 10 sq. ft. floor space per bird in the houses, with about 150 sq. ft. per bird in the yards. A part of the yards are grass grown, while the rest is kept dug up for the birds to dust in during the summer.

The Barred Rock has the distinction of being one of the very few varieties that are, as a rule, in market shape almost any time after they are 6 to 8 weeks old, as they usually grow flesh about as fast as bone and have fewer feathers than many of the lighter breeds. The best average weights that I have been able to obtain with the Barred Rock males and females from one month to a year are as follows:

- 4 weeks, male 1 lb. Female, about 14 oz.
- 2 months, male 2 to 2½ lbs. Female, 1½ to 1¾ lbs.
- 6 months, male, 7 lbs.. Female, 6 lbs.
- 1 year, male, 11 lbs. Female, 8 lbs.

Pullets generally lay regularly after they once get started, but care must be given to get them at it before severe weather sets in, for if neglected they will then sometimes go to eight months or more before they get to laying regularly. I have found that yearling hens make the most dependable stock, while they do not usually lay quite as many eggs as pullets in their laying year, their eggs have increased in weight, so that they are really very little behind the pullets at the end of the year. Two year old hens mated to good, vigorous, well-developed cockerels, or yearling cocks make the best matings, giving us the

strongest "bred-to-live" chicks of any of our matings, always providing that the breeders have been well cared for previously and not forced for eggs. They will lay as many eggs as the yearling hens, but generally come up a little in size of eggs, and even at three and four years will lay enough eggs to pay a nice profit above the cost of keeping.

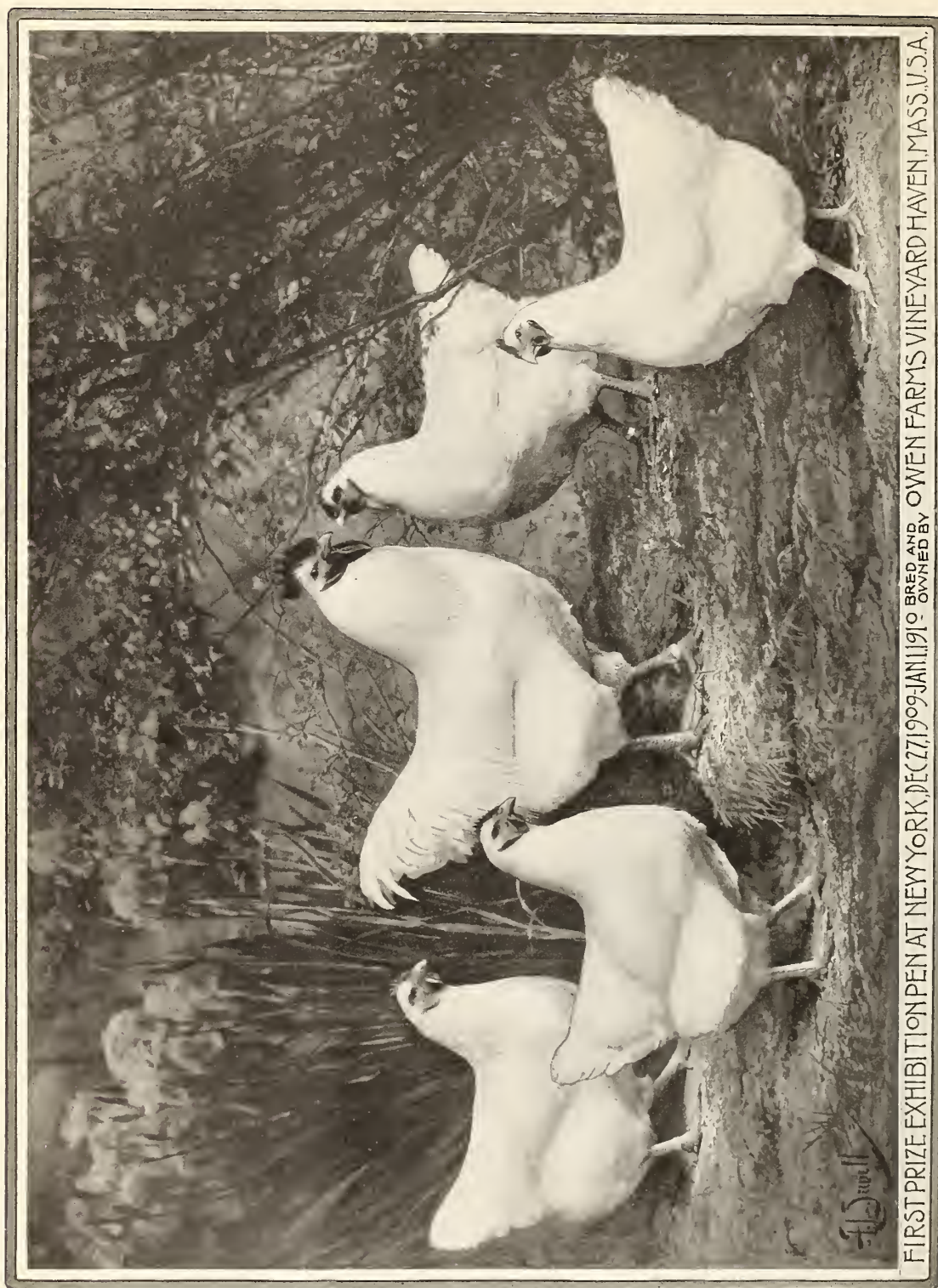
AGE WHEN HENS CEASE TO BE PROFITABLE

The age when hens cease to be profitable will, of course, depend largely upon the strain, the system of feeding, the manner in which they are housed, etc. Where space is limited I would not advise keeping birds over three years old. Barred Plymouth Rock females after the first year are inclined to take on fat very readily and the greatest care must be exercised to guard against this. I have found it advisable to induce exercise as much as possible during the cold months of the year, and when it becomes too hot to have them work continually, feed sparingly of the fat forming foods.

As a general purpose fowl I feel that the Barred Plymouth Rocks need no booming. They thrive anywhere, are quick growers and are bred extensively by market poultrymen. These facts combined with their "all the year around" laying ability, and their popularity as a fancier's fowl make them highly desirable.

In mating up selected pens I use only hens with records better than 199 eggs per year and pullets whose dams have laid better than 210 eggs. The males used in all the pens are pedigreed birds whose dams have records of better than 210 eggs. Barred Plymouth Rock eggs are even in size and a good brown in color, and one dozen, which won first prize at Philadelphia, competed for by all the breeds that lay brown eggs, weighed 1 lb. 12 oz. Another dozen eggs weighed 1 lb. 14 oz.

In beginning to breed for egg production, I believe the best plan is to secure a male bird bred from females that have themselves been bred from an established laying strain. Get a cockerel bred from at least three generations of heavy layers, and mate him to an ordinary flock of Barred Rocks. Take the pullets from this mating and breed them back to the cockerel (he will be a cock by this time). This will make the very best kind of mating and will be the first step in line breeding. By this method, an improvement in the egg production is frequently noticed in the first year's pullets.



PRIZE WINNING EXHIBITION PEN OF WHITE PLYMOUTH ROCKS.

The birds illustrated above made up the excellent exhibition pen that was awarded first prize at the Madison Square Garden, New York, 1909-10. In type, size and color of plumage, the specimens in this pen were most uniform and very close to the Standard ideals for male and females.

CHAPTER V

White Plymouth Rocks

Origin and History of the Development of the White Sport or Variety of the Barred Plymouth Rock. Difficulties Confronting Breeders in Fixing the Standard Type and Purity of Color

By F. W. PROCTER



THE origin of this variety, could it be fully determined, would make interesting reading. We may outline it with tolerable accuracy; but it is a fact that when a breed leaps into sudden vogue, with its diverse sources among the several pioneer breeders, there is no strict accounting as to its makeup. Nor does recourse to outside blood stop at the first crosses. Fanciers are ever alive to possibilities of engrafting from any breed excelling in some desirable trait, so that such breed is not in general features so unlike as to present too serious obstacles to a speedy return to the type. That the White Rock is in any of its families identical in blood with any other Rock no one familiar with constructive breeding supposes, although the variety as first brought to public notice was comprised of sports out of the Barred variety. Among the early competitors of the Rocks was the Java—not the feather-legged fowl wrongly called Java, whose blood entered into the Barred variety, but the breed which still survives under that name. In its three color varieties, the Black, Mottled and White, the Java was quite prominent up to about 1885, at which time they were submerged by the Rock's and Wyandotte's great tide of popularity. The fact that the White Javas made so spectacular an exit coincident with the White Rocks' boom that claimed everything available for breeding, indicates that their blood was a prominent element in the new variety. It is well known that for a long period the White Rock persisted in a type more like a Java than a Rock. This early stock was notably deficient in size and shape, and for a full decade made little progress. About this time the White Wonder sprang into prominence. In general appearance it was a very large White Wyandotte with lightly feathered legs, suggesting a Brahma cross. A petition, addressed to the American Poultry Association and bearing the names of hundreds of breeders, having been turned down at the Boston Show of 1898, this would-be breed was speedily forgotten. I have mentioned it in this connection to show the possibilities as to improvement of the white varieties of that day, both Rock and Wyandotte.

My personal knowledge of the White Rock dates back to the year 1884, when my attention being brought to it by the advertisement of Mr. Frost, of Maine, I purchased two settings of eggs, and raised a small stock. I believe that this original stock was what it purported to be—an albino Barred Rock. When the chicks appeared, it was with chagrin that I noticed their dark color; which feeling grew to disgust as their first plumage came uniformly of slate color. I have vivid memories of a letter that I "rote sarcastic" to the originator; and his reply was a revision of his former claims of "hatching pure white", allowing that such defective color would give away to pure white adult plumage. This proved true—in a degree; and the sole specimen that proved the rule I sold to another party starting in the variety.

If some breed had been available to furnish strictly white males for mating with the original sports, males having ancestral backing of this color, much vexation would have been averted. With an unbroken descent from Barred specimens, the evolution of pure white plumage was an up-hill task. As the result of considerable experience

in crossing, I later became color-wise to the point of maintaining that the White Rock originated in a most unscientific way as regards color. The breed's initial faults persisted as strongly as if they constituted the ideal toward which the fancy led. A pure white male prepotent from long breeding to this color, mated to black females, may be expected to reproduce his color upon a good proportion of his chicks. Such pullets as come pure white, similarly mated, will establish an unfailing line of the purest white plumage. The fault of the early White Rocks consisted of a half-way stage of albinism, perpetuated from the foundation stock. The White Java was a willow-shanked breed, yellow shanks being a specific disqualification; and as to plumage the natural derivation being from the mottled variety, we may readily trace the tendency to a black deposit in its various forms—a constant defect of the early Rocks—both to their Java and Barred Rock extraction. A fowl essentially Rock in its makeup and temperament might have been evolved without recourse to the Barred variety, typical from the start and with inherent white color, using, we will say, Black Java upon Light Brahma, breeding only the clean-legged black pullets to a White Dorking cock; a typical white cockerel from this cross, bred back to the black females of the first cross would have given a pure white stock free from all black tendencies. In the tabulating of deposited color, the skin of that portion of the body naturally covered by plumage, extending to the hocks, conforms to the color of the carcass; but the outer layer of the skin of the shanks and feet, especially as relates to the black pigment, follows the habit of the plumage color. We may thus classify the pigments according to distinct natures of deposition: the red being internal in its nature, the black, external. The shanks furnish an interesting example of this fact. Without reference to black deposit, a white-skinned fowl has a white shank, a yellow-skinned, a yellow shank: in the former case, white light is brought to the eye unchanged; in the latter, dilute red pigment in the skin of the shank gives positive action, controlling color. Now, if black pigment enters into the plumage scheme, the same naturally appears upon the shank: in the white-skinned, ranging from black to a pale bluish appearance; in the yellow-skinned, from black, through willow, to greenish yellow, according to the degree of deposited color. In these two latter instances, we see the two pigments conjointly—not strictly blended, but the black superimposed, the yellow within, their blending into willow or greenish being an optical effect. It has called for the best efforts of fanciers during nearly a quarter-century to overcome color defects with which the breed should never have been afflicted, being quite foreign to any white fowl's scheme of color.

However, a more serious congenital influence comes from the red pigment—more serious because not possible to eliminate entirely from the blood, but an essential factor in producing the required yellow carcass. A fowl in which all secretion is bred out, as the white skinned breeds, furnishes a comparatively simple problem to breed to a pure white plumage. But the Rock calls for secretion of red—in a limited amount, to be sure, else the excess of carcass requirement, especially considering the long inherent tendency that way, gravitates to the plumage. The

former claim that a dead-white plumage was an impossible concomitant to the yellow carcass, has been disproved by the immaculate color we see today upon so many specimens. The difficulty had been to find any pure white stock in the first instance to found a line of that color; which was finally evolved by the process of gradual elimination of deposited color. A long established habit of faulty color argues for a corresponding period to permanently establish the pure-white habit. It is not impossible that when absolutely pure plumage has become better fixed, the carcass may be made to take on a richness of yellow color now impracticable. The Silkie fowl illustrates how the carcass may be made to fairly reek in pigment from which the plumage is exempt. To be sure, the pigments have dissimilar natures, and there is a supposed affinity between the plumage and the red pigment not common to the black. But the genus hen has become so plastic to the hand of man that it would be rash to assert the impossibility of moulding the type to any proposed ideal. It is already a familiar experience to have chickens vary in the color of their shanks according to environment—faded out when yarded, bright yellow when allowed a grassy range—in both instances the plumage white—marking a growing tendency toward a complete distinctness of habit between external and internal deposit of red pigment. The progress in that direction is quite marked. The White Rock's plumage is rapidly nearing that point of perfection when exposure to sun, weather, and foods generally conducive to richness of color will leave its effect inwardly, not outwardly, and utterly fail to corrupt its whiteness.

As to required color of beaks and shanks, the Standard, with a degree of vagueness amply justified by the present status of plumage, dismisses the matter with the sole word, "yellow". Webster limits yellow as "the color of gold or brass"—not a close meaning as these metals have by no means a constant hue. But, better than arbitrary definition is accepted usage—the universal application of color terms. The conventional classification of the field of color into seven primary hues gives yellow and orange distinct attributes: and these the Standard recognizes by assigning "orange" as the proper color of the Pekin duck's shanks, "reddish yellow" for the Buckeye, "rich yellow" for the Buff Cochín. In view of such recognized distinction, yellow may not logically be distorted to embrace orange, and orange shanks have no authorized place in Plymouth Rock description. Other things equal, the whitest bird wins, but not the yellowest shanked when it reaches the description, orange. Sentiment lies in the direction of orange as the ultimate ideal, but its application finds as yet no authority in the Standard. We need more comprehensive descriptions in the Standard, no less as regards shape than color.

It is under the head of the White variety that the breed is most appropriately discussed as to its physical type, embracing shape and size of body, character of plumage, temperament—and doubtless in the near future, by further improvement of the Standard, to include description of dressed carcass and style of eggs. The history of the Plymouth Rock has been a gradual advancement of ideals. The breed which does not advance is like the fabled good Indian—a dead one. The original Rocks were long-tailed, resembling in that respect the Java's type shown in our Standard. The immediate tendency toward a shortened tail was manifestly from color considerations as the dark bars were painfully lacking from that feature in males and comparatively irregular in both sexes. About the year 1885, it was a general custom to show males with the main tail-feathers about half grown, the better-colored sickles thus concealing that defect of color and at the same time securing an artificial conformance to the short-tailed type then already the ideal, and at the present day an accomplished fact. The Brahma cross upon the Rock, concerning which the leading breeders of that day were "wise", but from personal considerations silent upon, was a distinct aid in reaching the favored shape, and undoubtedly a happy thought, from the general improvements thus

reached; but the fuller plumage of the Asiatic was a distinct drag upon the possibility of fine barring. The specimens of the Barred variety today giving the best plumage effect have not a pronounced fullness of feather but are rather inclined otherwise.

There seems to be a tendency toward refining the Rock type, as in the case of the Wyandotte. The recent Wyandotte requirement of more delicately feathered thighs and stern applies with equal urgency to this breed. The Rock's chief utility defect—towards fatty degeneracy—can be corrected by selection of a more active type. Any breed which has not been artificialized entirely out of the flying habit is well known to have a better breast development—an essential feature of table excellence. This calls for wings and tail of more generous proportions than is warranted by the Standard's adjective "medium". The fancier of the coming hen millenium will doubtless have a keen eye for beauty, but more beauty than is compatible with abundant eggs will pall upon his taste. An intimate rival of the Rock is the Rhode Island Red, the wings of which should be "rather large". The eggs of many Rocks are diminutive in size, showing a marked contrast with the breed in its early days, and this feature must be corrected if it is to retain its standing among the hordes of new varieties. There is no fresh blood available for Barred Rocks and the method of improving this variety without sacrifice of plumage markings is by selection for a more active type, including a lengthening of the wings and tail. We must not overlook the "rather long" requirement for both sexes as to backs and bodies.

A longer type of body for males than gains favor in the show room is one of the requisites for breeding the best shaped pullets. Mr. Hawkins, in describing the mating for pullets, specifies of the proper male, "body not too short". Mr. Latham says upon this matter: "We like a male for pullet breeding that is a little long in body, and a trifle longer in shanks, than a male we would use to breed exhibition cockerels." Fanciers have been slow to realize that the natural Rock male, like any fowl of useful proclivities, has a somewhat taller, more commanding build than the female. It is this true male, whose vitality finds natural expression in an anti-feminine type, that by a false conception of natural standards is set aside in favor of the prevalent type of exhibition male—of too much "corporosity" to beget the true type, and almost universally, being themselves an extreme development, unable to reproduce even their own type. It is not the extreme of the artificial in type that the fancy should aim, in this breed of which the fondest boast is of conserving the strictly practical. The one requisite to preserve the Rock among the favorite breeds is to consider natural egg-type—not to Mediterraneanize it, but to evolve it away from grossness of carcass and enliven it in temperament. Some utilitarians are doing this along lines that ignore beauty of symmetry and color, and results already reached show great prolificacy in the breed. Their work is worthy of emulation by fanciers. There is nothing arbitrary as to the requisites of an egg-type fowl—all races may be moulded to it and still retain their distinctness—remain representative of their breeds' highest beauty. The Rock could be made more beautiful by moulding it towards more hardness of feather and vim of temperament. Any one who has crossed the White Indian upon the White Rock will have noted the enhanced attractiveness that comes in with that blood. In my experience crossing with no reference to perpetuating the Rock type, I have been pleased with the improvement manifested in vigor of growth, egg-yield, carcass—both add to appearance and eating quality—and enhanced beauty, including that unanalyzed charm that constitutes them pets or favorites. The White Rock is making a strong bid for most popular fowl. The breed itself seems by general consent to best represent American tastes in general-purpose lines; and as a popular color, the white plumage does not promise soon to be deposed from its present position.



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MANZ COLORTYPES CHICAGO

PRIZE WINNING WHITE PLYMOUTH ROCKS

Winners at St. Louis World's Fair. Bred, owned and exhibited by U. R. Fishel, White Plymouth Rock Specialist, Hope, Indiana, originator of "The Best in the World" strain of this variety.



Illustration of a white dog, possibly a Bull Terrier, lying down.

Modern White Plymouth Rocks

Lengthening of the Back and Body With Greater Breadth and Depth and a Very Widely Spread Tail Has Made the Modern White Plymouth Rock One of the Most Beautifully Shaped Birds That Exists

By MAURICE F. DELANO
Manager, Owen Farms



HERE is no variety of poultry in existence today that has reached a higher average quality than have our modern White Plymouth Rocks. For years, able and experienced breeders in different parts of the country have been breeding towards a common ideal. This ideal has been accepted by the leading judges throughout America and birds that have approached this ideal have won the leading prizes at the hottest shows. This ideal type, which is being reached annually by a larger and larger percentage of specimens, is years ahead of the pictures in the American Standard of Perfection of the older editions, and the leading judges have accepted and placed the awards according to this ideal rather than the type published in the old Standards.

WHITE PLYMOUTH ROCKS OF TODAY ARE IDEAL IN SHAPE

The modern White Plymouth Rock is one of the most beautifully shaped birds that exists. The breeders of Buffs and Barreds have also been breeding toward this type and are getting it in a large number of specimens today, and some strains are remarkably fine in type. Others are still of the old-fashioned type, just as some flocks of White Rocks have not improved to any great extent. The distinguishing feature that differentiates the modern Rock type from the obsolete type of the past years, is the length of body and back and the breadth that has been gotten over the back and saddle; finishing with a very widely spread tail which is carried at the proper angle to complete a beautifully typed bird that is the admiration of all who behold it. The idea has not been to lengthen the back and top line of the bird at the expense of the bottom line, and the most perfect specimens have a deep full breast and extremely long keel. It is very hard indeed to get this length underneath in any variety, and a great many otherwise superb birds are a little deficient in breast. A few years careful, persistent breeding is going to rectify this defect and will give the Plymouth Rock the individual outline that is unexcelled by any other breed.

IMPORTANCE OF KEEPING THE BREED TYPES DISTINCT

On our farm here, we have three white varieties, the Plymouth Rock, the Wyandotte, and the Orpington, and we aim to have these three utterly distinctive in type so that if we see a flock of mixed white chickens in a field a quarter of a mile away we can tell the breed without the necessity of examining combs, legs, or minor details. I am very glad to say that we are succeeding in our endeavor, and visitors to our farms are struck by the uniformity of our breed types.

GOOD MALES AND FEMALES FROM SINGLE MATINGS

In breeding White Rocks, it has been our constant endeavor to get good males and good females from the same mating. At the same time, it is true in White Rocks as it is of every variety that a given mating will produce a larger percentage of good cockerels than it will good pullets, or vice versa, and while good birds of both sexes will

come from the same mating, we have to acknowledge in putting a pen together that we expect a little better average quality in one sex than we will in the other. In selecting birds for our matings, we do not have to worry any more about color, as our birds are uniformly of snowy whiteness. At the same time, there are as many shades of white as there are of any other color, and the males that will breed the whitest chickens are the males that come in with pink quills in their new feathers and that do not have an excess of yellow color pigment or oil of a yellow color. Birds having this characteristic are the ones selected for the matings, though it is a well-known fact that feeding does effect the color of this oil in the pigment more than most breeders realize. Every bird selected must be in perfect health and have plenty of vitality, and we prefer birds that are just about standard in weight rather than larger birds, on the score that the standard weight birds are better producers, lay more eggs and eggs that are more hatchable.

EYE COLOR IMPORTANT

Eye color has been so strongly bred into our flock that it is a rare thing to have a weak or off colored eye, but every male bird used must have a bright red eye and every female used must have a red eye, as near the perfect color as possible, but as eye color will fade as a bird ages, we do not throw out a grand good hen for her eye color if it has faded a little.

IDEAL COMBS FOR BREEDING

The male should have a four or five point comb, for an ideal breeder of combs on cockerels. Six-point comb males often produce very fine combs on pullets, but as the tendency is to throw too many rather than too few points, the ideal breeder does not have over five or six points.

BREEDING EXHIBITION COCKERELS AND PULLETS FROM SPECIAL MATINGS

For producing cockerels, by this we mean from which we know the cockerels will have better average quality than the pullets, we use a cockerel as near the ideal exhibition shape as possible, a bird of grand carriage, of good station, with plenty of length of line in every section, shanks of fair length, and distance from the hock to the thigh of fair length, good long back, wide, well-spread tail, carried as an exhibition bird should, broad, deep, full breast, and plenty of length of keel. Such a cockerel will weigh about nine pounds at one year of age. Mate him with hens or pullets that have deep, full breasts, broad backs, wide, well-spread tails and with very broad saddles. If they show a little cushion it is not a defect in producing exhibition males, as helps to fill out and broaden the saddles of the cockerels.

In producing exhibition pullets, we use a very similar cockerel excepting that we want him to carry his tail as low as possible and have an exceptionally broad saddle and a splendid wide spread tail. If the tail is a little longer than we like, it is no detriment as a breeder of pullets, if the main tail feathers are well covered and do not extend beyond the hangers. We want as good a breast as possible on the pullet breeder but do not regard it as

necessary as on a male for producing a larger percentage of cockerels. Mated with this male would be our exhibition type hens and pullets that have long, broad backs, well spread tails, deep, full breasts, and the proper station and symmetry.

SHORT BACKED AND BODIED BIRDS NOT DESIRABLE

We do not like short bodied, low-down, Wyandotty, Plymouth Rocks, the kind that as a rule have short backs, and carry their tails up. Am very glad to say that we rarely ever get a tail that is carried high, as by careful breeding the proper carriage of tail has been made an inherent characteristic of our flocks. It takes patience and time to breed characteristics into a strain of birds, so that the majority of specimens will have them. When it is accomplished, one's satisfaction is very great in having won out and successfully directed nature to meet one's ideas, and it well repays for the hours of study and hard work done in bringing about the desired results.

UTILITARIAN QUALITIES AFFECTED DISASTROUSLY BY EXTREME TYPES

I do not believe in the extremes to which some strains of White Rocks have been developed, as this is bound to result disastrously to the utility qualities of the variety. There is a limit to the length of line, which is desirable to produce in the breed. The extremely tall, long-legged,

long-necked, long-backed specimens that are being shown in some of our shows today are of a type that it requires too long a time to develop, and the females of this type are not good producers of hatchable eggs. It will well pay all Plymouth Rock breeders who have an ideal of this kind in their minds to modify it somewhat. When the utility qualities of a breed are affected, its popularity ceases.

The Cochin was once a splendid utility fowl. By skillful breeding, profuse feathering was produced to make a very beautiful bird and one that is a joy to the fancier's heart, but the demand for the Cochin is not what it was years ago.

The Exhibition Games were once excellent utility birds and here, too, skillful breeding has produced a bird without much utility value.

We are citing these cases merely as a warning to all breeders of Plymouth Rocks not to be too extreme in their ideas or in their ideals of this variety. There seems to be no limit to the way a skillful breeder can direct nature, but there is a limit to the way a breed can be manipulated for its advantage and betterment. In the White Plymouth Rock of today, we have a bird that is beautiful and satisfactory from a fancier's standpoint, and a grand good layer and superb market fowl from a utility standpoint. It is one of the country's best all purpose fowl, and the writer hopes that these characteristics will never be altered.



YOUNG WHITE PLYMOUTH ROCK CAPONS AND PULLETS.

Standard-Bred White Plymouth Rocks

How to Overcome Faults in Shape and Color by Proper Selection and Fine Breeding



THE following questions were submitted to a number of prominent breeders of White Plymouth Rocks:

No. 1—In your observation and study of the specimens exhibited at our leading shows, what are the prevailing defects?

A—in shapes; B—in color of plumage. Describe the prevailing shape defects in the order of their importance and state definitely

what you advise in selecting matings to overcome each defect. Also describe the prevailing color defects in the order of their importance and state definitely what you advise in selecting matings to overcome each defect.

No. 2—On the basis of your experience, how would you proceed to improve an average flock of your favorite variety and establish a strain? Tell the amateur what you would do with a flock of this kind.

No. 3—If you were to begin anew, knowing what you now do, would you buy eggs, or would you prefer to start with a trio, or breeding pen, and why?

No. 4—Do you advise starting a strain by using one or several blood lines, and why?

No. 5—Would you prefer to have your first mating consist of a cockerel and hens or of a cock bird and pullets, and why? What has been your experience in this respect?

No. 6—Explain to what extremes the fancier may go with safety, as regards inbreeding, also as regards line breeding. Describe your method of line breeding and give noteworthy examples of the results achieved, as determined by show room records.

No. 7—State your opinion with reference to the importance of creating and maintaining size, vigor and stamina in a flock or strain of standard bred fowl, and explain how you accomplish this desirable result.

No. 8—Describe, in detail, how you proceed and what governs your selection when you mate your breeders each season; also stating what size matings you favor, and why.

ANSWERED BY U. R. FISHEL

No. 1—The prevailing defects in specimens exhibited at leading shows and especially that pertaining to White Plymouth Rocks is shape. There are so many judges give Wyandotte shape Plymouth Rock prizes over the Standard shape specimen. The Plymouth Rock shape is much longer and much higher up in body shape than a Wyandotte, and how some of the birds with the Wyandotte shape win I have never been able to understand. To overcome this Wyandotte shape in our exhibition specimens one should breed nothing but a true specimen, by this I mean a bird that is rather long in body shape and deep keel. Birds with round broad breasts and in back shape should be rather broad with a slight incline from the base of the neck to the tail. If the White Rock breeders would see to it that their breeding birds are all of this type, there would be no need for the judges to place White Wyandotte shape specimens.

B—As regards the defect in color of plumage, our worst defect at the present time is creaminess in shaft as well as all sections of the plumage. By careful mating and breeding out of birds with this defect we are breeding White Plymouth Rocks today that are absolutely white throughout. We are bothered very little with brassiness in White Plymouth Rocks at the present time.

No. 2—Had I an average flock of White Plymouth Rock fowls lacking in shape and color sections, I would buy a male bird or as many male birds as needed and build up

my flock from these specimens. In buying a breeding bird you should at all times buy one that has the blood lines behind it to make it a valuable bird to breed.

No. 3—My advice to every one starting in the poultry business is to buy stock and not eggs. You lose a year's time by buying eggs, while if you buy the stock you get the breeder's mating which is worth a great deal to you, and at the same time get just such blood lines as the breeder from whom you buy is using in his own yards.

No. 4—Starting a strain I would start with one family or strain only. No one can take several different strains of families and mix them together in one season and get any results from his labor.

No. 5—As to what the first mating should be, I would advise hens and a cockerel or a cock and pullets. We have many times gotten splendid results from matings of cockerels and pullets and also cocks and hens, but where it is possible I would advise the breeder to breed a young male bird to an old hen and young hens to an old male bird. I believe the offspring is much stronger and you will get better results from them.

No. 6—Where one is breeding on a large scale, as many as twenty or thirty breeding yards each season, I do not think there is any danger of going to extremes in inbreeding. In this way you can line breed and inbreed to some extent but at the same time you will have practically no blood to mate up each season, but the new blood and the same blood lines and characteristics as the other birds you are mating them to. The show record won by the U. R. Fishel White Plymouth Rocks throughout the United States, and in fact the entire world, shows what results can be obtained from breeding in this manner. It is useless to name the many prizes won by the Fishel White Rocks at the leading shows, as the readers are no doubt well posted on their great record.

No. 7—I have always been an advocate of large size, and when the American Poultry Association placed a rule to cut for over weight I felt that they had given the poultry industry a severe blow, and am sorry to see my views in the matter are being fully realized and brought true as there are more small birds exhibited today than ever before. To retain size, vigor and stamina of flock one must grow them right, giving them absolutely free range when young and following nature as near as possible with the exception of incubating and brooding. The Fishel White Plymouth Rocks are known as a strain of large fowls, and although they are as a rule nearly all hatched and reared artificially they have never lost their size, vigor or stamina, which shows they are given absolutely free range and when they are feathered out they maintain the essential points that go to make up a healthy high-class flock of fowls.

No. 8—In mating up our breeding yard each season we select birds that we know are bred right, birds that are strong in every section and especially vigorous and healthy, good laying stock. In breeding for fancy requirements we have never overlooked the fact that chickens were made to lay eggs and to be used as a market fowl, therefore, we have been very careful in not only improving the fancy end of our business but keeping our fowls up to the high state of perfection both as egg producers as well as table fowls. So well have we succeeded in this as well as the fancy side of breeding that we have had hens that would lay two eggs in one day. I believe it possible that a hen can be produced by careful breeding that will lay her two eggs every day.

As regards the size of matings this depends largely on

the size, vigor and health of the male bird. Our matings range in number from five males to twenty-two females in a pen. Having learned by nearly twenty-five years' experience in breeding fancy poultry that one can obtain most any results desired by careful selecting matings, we believe nothing is impossible in the hens if one's labors are carefully guarded and the bird is well cared for and bred along proper lines.

ANSWERED BY CHAS. H. WARD

No. 1—A—The prevailing defects in shape according to my observation are as follows: 1—Knocked kneed or too close in hock. Quite a few specimens show this defect. To overcome it use only as breeders such birds as stand very broad with legs set well apart on body, and perfectly



WHITE PLYMOUTH ROCK COCK.

A modern type of White Plymouth Rock male, showing a well furnished tail carried at the proper angle. Head, comb and neck good in shape; breast and body need a little more depth and fullness.

straight. 2—Lack of breast. Breed only from full breast-parent stock. 3—Too fluffy or "Cochin feathered." A Plymouth Rock should be "hard feathered," even the fluff feathering at thigh and hock laying quite close. Use such as breeders to overcome the defect. 4—A tendency to pinch tails in many specimens. Mate hens with low carried, well spread tails to mate with a tail carried almost at 30 degrees angle and spread as broad as he is at the shoulders. 5—Too much length in sickle feathers in some specimens. Sickle should be short and well curved. Just length enough to clear the main tail feathers. The length of a bird should be in his body—not entirely in his tail.

B—Color of Plumage. There are two defects in color of plumage, viz: creamy and too white. Creaminess is caused by the oil in the plumage and some birds show perfectly white as soon as plumage has matured. Some birds are exhibited so white that there is no doubt left in the minds of the judge or general public but that the birds

have been heavily bleached. To overcome the former defect breed always from your whitest birds. To overcome the latter defect, disqualify for faking.

No. 2—To improve an average flock: I should carefully look over the birds and cull out severely. If necessary I would reserve only one female. If I had a pretty good male, would mate to the best of the females (not more than six to a cock or twelve to a cockerel), and if the progeny showed a marked improvement over the parent stock would continue, use cock back to pullets and a cockerel of the hatch on the hens. Continue on in line breeding, culling very closely. New blood may be brought in occasionally through the female line. By bringing in new blood through male line you stand a chance of losing a whole season's work if the mating don't "nick." The above, of course, is with the supposition that you have fairly good, pure bred stock to start with. If such was not the case I should begin anew and proceed as in No. 3.

No. 3—If starting anew and could commence in the fall or early winter, would prefer a breeding pen or trio if I could select the birds and could afford the price. Would then set the fresh eggs under hens, as fast as I secured a setting. You could then see what you were getting, and the eggs used would not have to stand the hardship of shipment. If I could not start before March, would get several settings of eggs from good reliable breeder of high reputation and proceed as above.

No. 4—This would depend a great deal on the individual birds. If I could find just what I wanted in the same strain even though in different families, would prefer it, as you cannot always tell just how two distinct blood lines will "nick." You might be successful and again, not. The tendency to revert would be stronger where two different lines clash.

No. 5—I would as soon have pullets with cock birds if the pullets are well matured, for the reason that they are in the zenith of their power of reproducing their like. Also there is less liability to transmit disease of the intestines or bowels than where hens are used. To be sure hens give larger eggs than young pullets, but if pullets are well developed and well cared for their eggs will hatch a larger percentage than hens. At least such has been my experience.

No. 6—I believe there is no limit to line breeding, and even in-and-in breeding can be carried far if particular attention is paid to vigor and size of stock. I use a modification of the Felch system. Cannot give examples without using names of some of my customers, as I have not exhibited for some time. My birds are always ready for inspection, however, and visitors are welcome.

No. 7—Vigor and stamina and standard size are of utmost importance in maintaining a strain successfully from a financial standpoint. To secure these results I use only birds which meet the like requirements. Then again the youngsters must be kept growing from shell to showroom. A bad fright, for instance, will set a chick back a week's growth. Miss one meal, and it is a severe check. Give young stock free range and plenty of growing feed; fresh water at all times. Fancy houses are unnecessary.

No. 8—In the first place I cull very closely in the fall of the year, and only winter over from 80 to 100 breeders. These are carefully gone over when making up my pens. First I select my very best females, say a pen of six hens or 12 perhaps, according to whether the male is to be a cock or cockerel. I pick these females as for the showroom, that is for uniformity of size, shape and color. The male is to match these as closely as possible, and to cover any slight defects in female line. I prefer 4 point comb for breeder. Females 8¼ to 8¾ lbs.—long straight backs, tails spread well, feet and legs well apart—eyes red or strong bay—combs a trifle larger than some of our show specimens—full deep breast and long keel. The male must be pure white, as I depend on him to fix the color. Prefer a male about 9¾ to 10¼ lbs. Don't care for these 12 lb. turkeys. I avoid assiduously any sign of down or stubs in my breeders. I find this defect will crop out in a few speci-

mens occasionally, and my experience has been that no matter how fine a bird the breeder is, if down is tolerated for one season, the next season will be tripled. I know some breeders and judges say it is only a minor defect, but I know that it is one of the hardest faults to eradicate that there is, and I have bred W. P. Rocks 13 years and poultry in general about 20.

ANSWERED BY FRANK H. DAVEY

No. 1 (A) Lack of fullness of breast; angle at the base of tail; narrow saddles and narrow pinched tails.

(B) Brassiness, creaminess and ticking.

Lack of fullness of breast can be overcome by selecting birds for breeding with good strong keels that extend well forward, with bodies carried nearly horizontal and never with the shoulder point carried higher than the back. To avoid an angle at the base of tail select a male with a tail carriage of about 35 or 40 degrees; with the saddle feathers running right up the tail. Width of saddle and tail can be improved by selecting only breeders that have good width in these sections, with the tail nicely rounded or arched, avoiding those with "A" shaped tails ridging up like the roof of a house. Brassiness is a very serious color defect, but has almost entirely been bred out; a bird showing any brass should be discarded; creaminess can be overcome by selecting breeders with good white quills that show pink pin feathers when coming in. Ticking sometimes crop out on the otherwise whitest specimen and is not very serious if it does not show in the wings and tail. I would discard a bird showing much ticking in these sections.

No. 2—By carefully selecting a few of the best females and procuring the best male attainable, strong in the sections the females were weakest, the best pullets from this mating could be bred to the father and the best cockerel to the mothers. By a careful system of line breeding for a few years a strain would be established.

3—I would start with the best trio I could afford to buy. I would expect more of a uniformity in the chicks, by trap-nesting. Would know the dam and sire of every chick and would have the father to breed to the daughter and son to mother.

4—By using one blood line only, would be able to establish a strain much sooner and get control of the breeding of the flock.

5—Cockerel and hens; the hens being fully matured lay a larger egg that hatch a larger and stronger chick; the cockerel being active and vigorous is likely to fertilize better than a cock bird.

6—Inbreeding can be carried on almost indefinitely, if very close inbreeding is avoided and only strong vigorous birds used in the breeding pens.

7—To create and maintain size, vigor and stamina, select for breeding only the strongest, most vigorous birds that have never been sick and have been raised under natural conditions.

8—In mating we first select the male. He must be white, good shape in all sections, particularly in breast, saddle and tail and with good head. As they all fall short of perfections, we note carefully his weakest sections. In selecting the females, they must be good in all sections and particularly good in the section the male is weakest. If the females are all sisters, so much the better, as we would get more uniformity in the chicks. We usually mate six to eight females with a cock and eight to twelve to a cockerel. We find this about the right number for best results.

ANSWERED BY FRED HUYLER

No. 1—The prevailing defects at our leading shows are: In shape we find almost every breeder with a different type of bird. This is a most serious defect in our grand breed. I think the cause of this serious trouble is with our late Standard which is not clear on this point with the cuts of both male and female. They are not typical cuts of White Rocks today as the breeders are far ahead of them. Take for instance the male: destroy the head of this and sub-

stitute the head of the male Wyandotte cut, and you will find very little difference in the male Plymouth Rock and Wyandotte. Breeding from such a bird as Standard calls for, is almost always sure to be a failure, as he will produce females too short for any use and in a year or so you will be run out on the female line. In the female cut, the back is not a genuine Plymouth Rock, as we see it at our big shows; it is not broad enough on back or tail spread to produce in the breeding yard the desired White Rock of today. What we use to produce in our yard both male and female as we advocate one line of breeding, is a male bird with a long back, not having the sweep of a Wyandotte or of the present Standard illustration, but a bird with a trifle straight part of the back, then convex sweep, with saddle feathers running upon main tail feathers, and the



WHITE PLYMOUTH ROCK HEN.

A grand hen in size and type, pure white in plumage, with bright yellow legs and beak, one of the most popular typed birds in the East.

most important point is that the tail feathers do not break through the saddle feathers, but the saddle feathers run well upon tail. This will make a low tailed bird, tail very broad, all the way through. Legs set well apart and medium in length, a good 5 point comb and red eye, beak well curved and stout. As to color of male, he should be white in every section, but not so white as to conflict with color of legs or skin. This important point is often overlooked with the desire to get snow white birds, but I deem it best to get a little cream than to lose the good yellow of skin and legs. The female for this mating should be rather long and broad, with arched tail. This is something that all judges are in love with, but it is not called for in the Standard. Judges always place these birds forward in the list, and I hope to soon see such a cut in our Standard. She must be of good size, standard weight, or over, with color of plumage same as in male; these two

mated will produce male and females far superior to our present Standard.

No. 2—As to improve the average flock; in the first place, study just what they lack in color and shape, then select from some good breeder a male that is very strong in points, where females lose, bearing in mind the length of back and width of tail which are most important points in White Rocks. Breeding with this in view for four years, you should have a good average flock, and one that should do good in a show room.

No. 3—As to starting anew, I would much prefer fowls to eggs. I would select a trio of the best birds I could afford to buy from a good breeder. When I speak of a good breeder, I mean a breeder who has established a line of show birds for himself; birds that have been bred in line for years.

No. 4—As to starting a strain. We would start with one well bred line, the reason for starting thus: You would be starting where the breeder where you purchased left off, and you would have his years of experience in these birds. If you start with two lines, say one from the East and one from the West, the first year's program would be variation in type and color of plumage, though you started with the best strains obtainable. It would take at least four years of inbreeding to get birds as good as those you started with.

No. 5—As to age of birds, starting as to cock birds with pullets, and cockerels with hens, we have no preference, as we have had very good success with both, using pullets and cockerels that are well matured. We have had good success with pullets mated to cockerels, but would not advise this mating.

No. 6—As to inbreeding, we have practiced this all our life with this variety. Inbreeding may be well carried out for four years, providing you start with one pair and breed in and out each practically having two lines, you will not decrease the size, but increase it if you are careful to select long wide backed males and females and of good size. We do not introduce any direct new blood, but birds that we know are half our own breeding. This gives us one quarter new blood and we keep the new overpowered at every instance, so we do not lose either size or color.

No. 7—In maintaining size and vigor in a flock, first we breed from perfectly healthy birds, being very careful not to mate brother and sister, but father and daughter and son and mother. Of course, we pay strict attention to raising our birds. They must be kept growing from the shell to the show room. This is important in getting good healthy birds. If this is carried out, you will have no trouble in running down the size.

No. 8—In selecting matings each year, we first select our male bird; this bird must be as near as possible up to the requirements we want in this breed, viz., shape and color. Study the male carefully, taking every point into consideration. With this bird we mate from 8 to 10 females as near our idea of the variety as possible; this makes up our best pen, and so go on down the line with as many pens as we mate up. We do not advocate breeding females strong where male is lacking or vice versa. We believe putting best in best pen when you have them. Then you are sure of one mating. We breed 8 to 10 females to a mating, as males do not safely fertilize more in the early spring, especially if birds are yarded. White Plymouth Rocks have certainly come to stay, as breeders of this variety are far ahead in type of their Barred cousins, and each year in New York the Barred breeders get a great many ideas as to type from our favorite White Rocks.

ANSWERED BY A. C. HAWKINS

No. 1—The most serious defects in the exhibition White Rock males today are the shallow breasts and lack of depth in the body. These defects are serious because they effect the practical market value of the breed. A perfect table fowl should have a broad full breast to insure abundance of white meat, and in fact a blocky fowl has more flesh in all sections.

The only way to overcome these defects is to breed from males that have deep full breasts that are broad and well developed. There is a tendency to breed White Rocks with too long shanks and too long bodies. These qualities add coarseness and too much size for the breed. A serious defect in my mind is the flat back and tail as it ruins the beauty and style of the males. The Standard calls for a concave sweep from the base of the hackle to the tail, and the judges should require it in placing their awards. Breeders are not particular enough about the comb of the White Rock and the average show specimen is very defective in this section.

The shape of the White Rock female is much better than that of the male, and if the breeders will hold their breeding birds down to near Standard weights the females will be of better type than the large coarser birds. Pullets that weigh 6 to 6½ pounds are better layers and produce better market fowls than the big coarse specimens.

No. 2—The best method of improving a flock of any variety is to select a pen of females that are as near the Standard type and color as possible and purchase a high class male from some reliable breeder who has the quality you need to improve the defects in your flock. Be particular to have good combs, eyes and legs in the breeding birds.

No. 3—I would advise a beginner to purchase birds in preference to eggs in starting a flock or strain and buy the very best specimens. Better buy a trio of fine birds than a pen of ordinary ones at the same price. Let the breeder you purchase from, mate them for best results in breeding, as he knows the characteristics of the strain better than the purchaser.

Many times good results come from purchasing eggs, but there are so many accidents that may happen from the time the eggs are shipped until the chicks are hatched that I consider it safer and more satisfactory to start with birds rather than eggs.

No. 4—In starting a strain I would advise using one line of blood on conditions that I could find the quality I wanted. Sometimes by inbreeding some important qualities are weakened and it is necessary to infuse fresh blood from a strain that is stronger in these characteristics in order to keep up the quality of the strain.

No. 5—I prefer a cockerel mated with yearling hens for an ideal mating as the hens lay larger eggs and naturally larger chickens come from them, still I consider early well matured pullets valuable breeders. I prefer a young male as he is usually more vigorous and insures strong fertile eggs earlier in the breeding season. Many old male birds do not recover from the moult until late in the season and do not fertilize the eggs.

No. 7—It is necessary to keep up the vigor, stamina and size of any strain to breed them with success. To maintain these qualities it is not advisable to inbreed too closely. Give the breeding stock and growing chicks free range at all times when possible. Nature will do more to create vigor in a flock than anything else. Always breed from healthy fowls that are from strong healthy parentage. Use breeding birds or near standard size and do not breed from birds that are over fat from lack of exercise or improper feeding. If the breeding birds are kept under these natural conditions the progeny will be of standard size or over if properly cared for.

No. 8—In making up the breeding pens each season I secure females of standard type, size and color, and I prefer to have them from different families of the same strain. I use a male bird that is strong in every point so that if any of the females are weak in some section I am sure the male is strong enough in this characteristic to overcome any defect in the progeny.

Eight females to a cock bird and ten or twelve with a vigorous cockerel should insure good fertility. By using several families in the same mating it gives the breeder more chances for the golden cross that produces the champion of the season.

ANSWERED BY LYMAN H. HILL

No. 1—I would say, that in my opinion, the White Plymouth Rocks lack a uniformity of type more than any other one thing. Even in good shows, quite a large percentage of the birds in a class, even though they be considered of good quality, vary greatly in type. Aside from this variance, the worst faults are too short in leg, backs too short, tails not carried at proper angle and width of tail not conforming to width over shoulders. If breeders would pay particular attention for a few years to long backs and keels, low, well-spread tails of medium length and plenty of saddle at base of tail, and would try to get their birds up a little higher, the breed would be more beautiful and more easily distinguished from the Wyandottes and Orpingtons.

This question, No. 1, is too broad in its scope to be intelligently answered. A novice would hardly desire to start a strain of his own, as it would be far easier for him to secure birds from a reliable breeder and commence where the reliable breeder left off, so to speak. In this way he would secure, at no additional cost, the best results gained by this breeder and save himself much useless work, time and expense.

Condensing the matter in a few words, young stock in shape resemble their sire; in size, their dams. Minor points, such as color, combs, eyes, leg and beak color, etc., are inherited about evenly from both parents.

If I were to start new in the poultry business, knowing what I know now, I would commence with stock rather than eggs and would put all the money I could spare, in just as few birds as possible. A trio would not be too few. That is, if I was desiring to own strictly high-class stock for exhibition and breeding purposes. Would buy these birds in the fall of the year as at that time prices are lower and the seller can offer a better selection.

Would prefer to use a strong, vigorous cockerel mated to real early hatched pullets, or good sized, active hens. My best birds usually come from cockerel matings. These matings also produce a larger number of fertile eggs than a mating headed by a cock, and the chicks seem more vigorous and hardy. Whether this is due to the increased vigor of the cockerel as compared with the cock, or is caused from the fact that the real early hatched pullets or young hens are thoroughly matured, whereas very often pullets mated to cocks, are not, I do not know.

Starting with a male and a few females, it is safe to cross this male with his pullets the first season and the best cockerel with the original hens the same season, making two separate pens. While a certain amount of in-breeding is necessary if we wish to retain the best characteristic of our strain, too much importance cannot be laid on strength and vigor, to secure which we must refrain from in-breeding too closely. I think the one best way is after securing a male and several females as a foundation, to set the eggs from the largest boned and best hen, separately. Mark these chicks, dispose of the

pullets and use the best cockerel from them, on the other hens, not including in this pen, the mother of this cockerel. If another pen is wanted, use a brother to this cockerel on the pullets from the other hens. The pens for the following season should be headed by full brothers, sired by your best cockerel, out of a new hen purchased from the breeder from whom what bought the original, stock. When this hen is bought she should possess strongly the characteristics that is most necessary to breed into the flock. Her eggs should be saved and set by themselves, chicks marked and the pullets hatched from them disposed of and the best males used to head breeding pens for the following season. A new hen bought every second or third year will produce a new line of blood, will increase the vigor of the resulting progeny and is a much cheaper and safer way than by buying new males. While on the subject, might add that I consider the purchase of good females of far more moment than the purchase of males. While we know the male is one half the pen, too many breeders lose sight of the other half (the females) almost entirely. Good males will cost from \$25 up, if of the necessary quality, while a female can be purchased for the same money and mated to your best male, will produce a number of cockerels just as good as you could buy. You have the advantage too, in the latter case, of knowing the ancestry of your breeding males and are not taking chances.

Nothing is more important in a flock than type. If your males are full brothers, the young stock will be uniform and all of the same appearance. With proper range while young, and proper feeding, using oats, ground bone and other feeds containing an excess of protein, rather than much corn, buckwheat and similar fattening feeds, size can be increased and the vigor and stamina of a flock kept unimpaired.

In selecting my breeders and mating my pens, I consider females first. Discard all that are fine-boned, small or seriously deficient in any respect. Divide these into groups, each group composed of females closely resembling each other. I then select males to put with these different groups, or pens, that are of standard size, but not too large or coarse, have good head points, good shapes in all sections and that otherwise are extra good in any minor sections where females may be weak. Above anything else, I demand strength and stamina in a male; using only strong, "scrappy" males, and use as few females as possible; never more than fifteen with a cockerel, and preferring to use about eight. With six to ten females, the eggs hatch better, the chicks are stronger, a greater percentage are raised and their quality is usually better than if a larger number of females were used.

In conclusion will say the above is written as covering some things I have learned through experience. There may be others who have been successful along other lines, which would only go to show that there is no hard and fast way to attain success, everything depending on the breeder himself, and the brains, zeal and labor he puts into his work.

FISHEL'S "BEST IN THE WORLD"
WHITE PLYMOUTH ROCKS.



AT GREAT HAGERSTOWN, MARYLAND FAIR, 1910.
FIRST PRIZE COCK, HEN, COCKEREL & PULLET,
SPECIAL PRIZE, BEST COCK IN SHOW,
SPECIAL PRIZE, BEST PULLET IN SHOW,
OVER 6,000 BIRDS COMPETING.
BRED & OWNED AT "FISHELTON" HOPE, INDIANA.

Breeding White Plymouth Rocks

Proper Mating of Good Blood Lines Necessary to Produce the Best Results in Both Exhibition and Utility Stock

By U. R. FISHEL



GREAT MANY poultry fanciers—not only those breeding White Plymouth Rocks, but many breeding other varieties of poultry—often ask me, “Fishel, how in the world have you or do you make such rapid strides, and secure such splendid results with your birds. Each season we see them better?” I generally reply, “proper mating,” and in this alone you may say lies the success of any fancy poultry breeder. It is quite a pleasure to have your birds come better each season.

To obtain desired results from a breeding yard of any breed of poultry, one must have breeding stock that has been bred in line, and that has the blood lines behind it to reproduce the good qualities desired. One can mate and select his breeders until he dies from old age, and get no results, if he has nothing but the individual White Rock fowls to breed from.

SECURE GOOD BLOOD LINES

It has always been a puzzle to me why some people in buying breeding stock with which to lay the foundation of their poultry plant, buy stock with no blood lines behind them, as failure is sure to stare them in the face. What is more discouraging to the amateur fancier than to have his whole season's work lost by poor results from his breeding yards? This alone has caused many a one to abandon the poultry business in disgust. If one will buy as their foundation stock, fowls that are line-bred birds; fowls with the blood lines behind them, there is no cause for their not getting results from their matings, and if good results are obtained by the amateur the first season, you can bank on it he is going to stay in the business. If he is breeding White Plymouth Rocks, and stays with them two seasons, he will never discard them, for they will be too profitable for him to ever think of giving them up.

We will tell you how our White Plymouth Rocks are mated, then you can look over your own flock and mate

your yards accordingly the coming season. I could not have written this article at a better time, for I am just now mating up my breeding yards for 1908, and when one gets through mating up something like forty breeding yards, he feels as if he had been doing something.

SELECTING BREEDERS

With the present standard requirements, one must breed White Plymouth Rocks with “rather long” bodies. Therefore, in selecting your females for this season's use we were careful to select only those with long bodies, full round breasts, deep keel and broad, full backs, with low, nicely spread tails. We discarded hens this year showing any cushion whatever, with the exception of two yards. We always look well to the combs and eyes, also to the plumage.

With females of this type as illustrated in Fig. 1, we mate a male bird of good body length, high up on his legs—a bird on the type shown in Fig. 2. If your birds are of some well established strain you will obtain from a mating of this kind about sixty per cent. of strictly high-class exhibition birds.

In our matings this year we found quite a lot of good, honest old hens, like those shown in Fig. 3—note the large size, broad breasts and backs, and neat, low combs. We mated to this type of hens a cockerel of the type as shown in Fig. 4. From such a mating, the percentage of poor specimens is very small—in fact, I doubt if you could get one poor, really poor specimen.

With hens of the type shown in Fig. 5, hens that are a little too short in body, but still have that full breast a Fishel White Rock must have, we mate a male bird of the type as shown in Fig. 6. One can readily see from this kind of a mating there is sure to come a large percentage of strictly high-class specimens.

Pullets of the type as shown in Fig. 7, strong, vigorous, farm reared birds, should be mated to a cock bird of good size, and of the type shown in Fig. 8. From such a mat-



FIGURE ONE.



FIGURE THREE.



FIGURE TWO.



FIGURE FOUR.



FIGURE FIVE.



FIGURE SIX.

ing one is sure to get a very large percentage of prize winning specimens.

IT PAYS TO KNOW

The "Fishel" White Plymouth Rocks have been mated along these lines this season and we know for next year we will have a wonderful improvement over our stock of the present time, and our this year's chicks excel those of last season nearly forty per cent. The Fishel White Rocks are so bred that when mated together properly you know what you are going to get, as the blood lines are behind the birds to produce the results.

It takes one but a few seasons to produce whatever he desires in special sections of his birds, like a longer body, a better comb, yellow shanks or pure white plumage. While mentioning white plumage, it reminds me of a letter I had from a brother fancier the other day asking me how to bleach his birds white. I told him to breed them white. No breeder is considered much of a breeder who has to resort to bleaching to have his birds white. I have owned birds that won several cups for whitest birds in the show room, but last season I sold a hen that won three silver cups for being the whitest bird in three different shows. These birds were bred white, not bleached. It takes a few seasons' work to breed them white, it is true,

to tell you how the U. R. Fishel White Plymouth Rocks are mated, and believe with these illustrations many amateur breeders can successfully mate their yards this coming season. I could go into more details in this article, but it would take too much space and no doubt from the above you can mate your yards successfully.

HOW TO GROW STOCK

We always give our growing stock absolutely free range, placing them in colonies of about thirty-five to fifty. The houses in which the chicks are placed are located along the growing corn, out in the orchard, on wheat field, or in the grass field where hogs are being fed for market. Several houses are placed in the cattle lot and near the barn, where I must say our best chicks are generally found. We never separate the sexes, and can any time from July 1st select exhibition birds that win at the leading shows.

COLOR OF PLUMAGE AND SHANKS

We never do anything to protect the plumage, for a white bird that will not stay white running at will in the sun, is not a bird that should be sold to a customer. Our birds are bred white and they stay that way. As to color of shanks, the writer several years ago was under the impression that a White Plymouth Rock that was absolutely white could not be bred with a rich yellow shank, but I



FIGURE SEVEN.



FIGURE EIGHT.

but how much better than to be bleaching your birds every show. I think the half-tones shown in the article will convince all that they can be bred white. I have endeavored

have changed my mind and now produce each season thousands of snow white birds with this desirable characteristic. To procure this, it must first be in the parent

stock; then the chicks must have access to grassy runs and no trouble will be encountered in retaining the rich shank color.

FEEDING THE GROWING CHICKS MOST IMPORTANT

The most difficult thing in rearing white chicks is to keep the plumage free from creaminess. This can be done by feeding. Any growing chick, no matter how white, can be ruined as an exhibition specimen by feeding. We are now feeding our growing stock wheat, oats a little cracked white corn, sorghum seed and some millet.

We never feed any yellow corn nor do we permit the farmers who rear fowls for us to feed it. Some claim the feeding of yellow corn will not cream the plumage, but the writer knows better and I would advise all breeders of white fowls to stay clear of yellow corn.

We notice some one has said in pushing their choicest specimens, their combs grow faster than the chick. This is often the case with chicks that are penned up and pushed too fast. You seldom find any trouble in large combs on chicks that have free range.

I have often been asked if we have any trouble with crooked breastbones, and am pleased to say it is very sel-

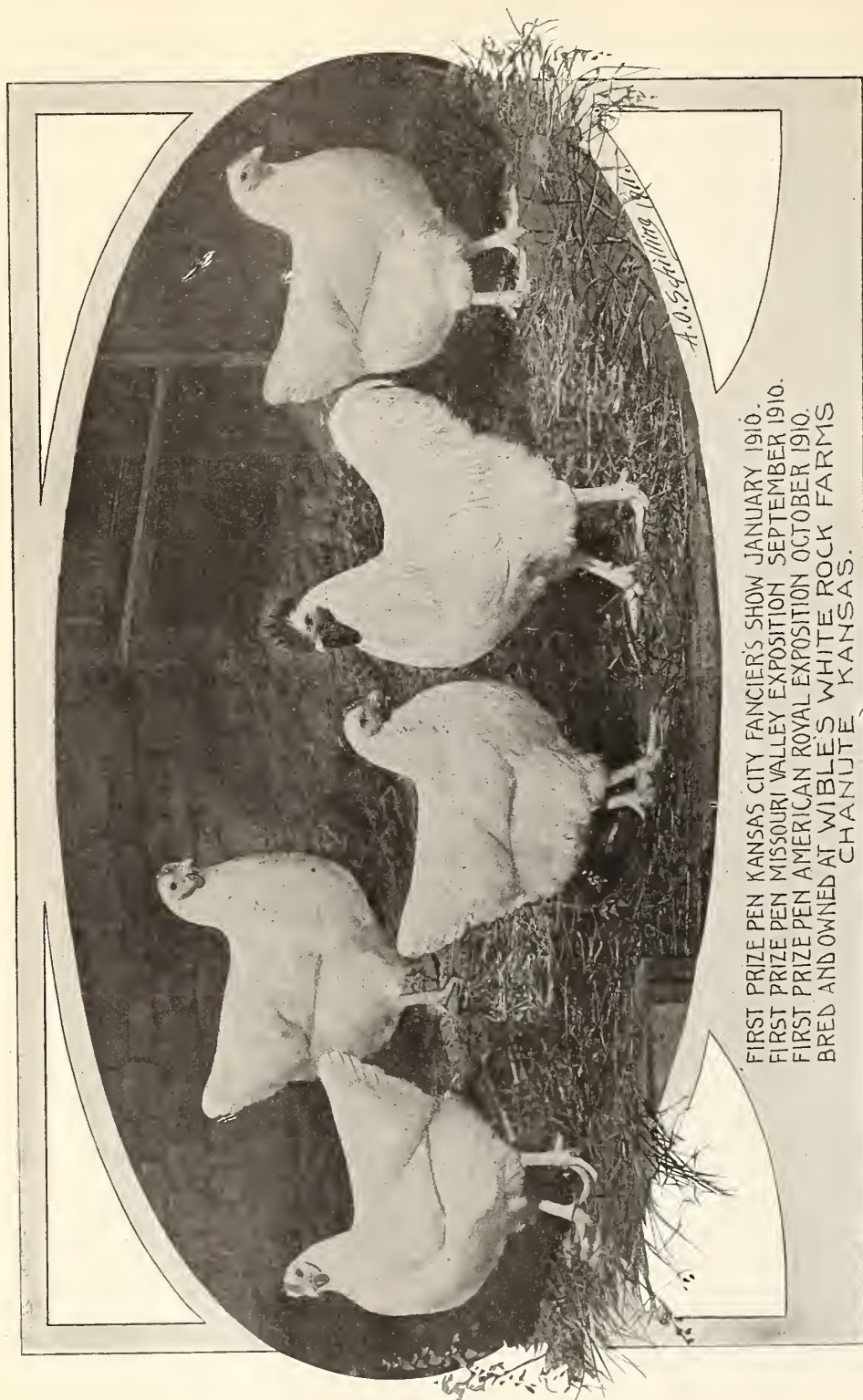
dom you find a crooked breastbone in the many chicks we produce. Our young chicks are permitted to go on a roost as soon as they wish, the roost being a 2x4 inch piece of timber used the 4-inch way. It is natural for a chick to desire to roost on a perch, and as soon as they feel old enough to do so, we allow it and have never noticed any ill results from it.

In summing the whole matter up, we find the nearer you can let nature have her way with your chicks, the more choice specimens you will have at the end of the season. To be sure you must first have stock that has the blood lines behind it to produce the quality, then with your assistance and that of nature you can raise as fine fowls as any one. I suppose there are reared and sold more choice exhibition specimens annually at Fishelton than any other poultry plant in the world, and they are cared for and fed as mentioned in this article. Some of the winners at the leading fall shows for many years, are birds that the writer has picked up off free range, cleaned up the shanks and sent to the show room without even touching the plumage. These birds go into the show room chuck full of life, and possessing all the excellent qualities nature could give them and in most cases they win over the other bird.



WHITE PLYMOUTH ROCKS AT URBAN FARMS.

The above illustration was made from a snapshot photograph taken at Urban Farms, Pine Ridge, N. Y., and shows a fine pen of White Plymouth Rocks in the act of feeding, all birds being busy picking out the grain from the litter on the floor.



WINNING WHITE PLYMOUTH ROCK EXHIBITION PEN.

It was our privilege and pleasure to handle and make studies of some of the well-known White Plymouth Rocks owned by Wible Brothers, Chanute, Kansas, a few of which are shown in above group. It has been the object of these breeders to retain the laying qualities of their birds when perfecting them as an exhibition strain. The fact that their birds continued to lay while caged during the exhibition, is proof that Messrs. Wible have succeeded in producing a strain of prize winning White Plymouth Rocks which have market and laying qualities combined with standard form and fine feathers.—A. O. Shilling.

White Plymouth Rocks as Market Poultry

Unequaled For Superior Quality Roasting Chickens. Breeding Birds Above Standard Weights Are Preferred, "The Bigger The Better."



THE White Plymouth Rocks are deservedly popular with those who grow poultry for the fastidious Boston market. They are becoming more and more the favorite variety for growers of small roasters, soft roasters and capons. In this field they have outclassed the Light Brahmas for large soft roasters, and during the past half dozen years appear to have distanced their other rivals, the Barred Plymouth Rocks and Wyandottes.

It is probable that the White Plymouth Rock has come nearest to perfection as a table fowl in the eastern part of Massachusetts where many thousands are grown annually to supply the "shore trade" and the Boston market. There is ample evidence of this in the fact that a very considerable number of market growers raise this variety either in large numbers or to the exclusion of other breeds.

Barred Plymouth Rocks are still very popular with many, particularly with those who do not attempt to handle a broiler trade. White, Buff and even Silver Wyandottes are favorites with others, but chiefly where many broilers and only small roasting chickens are grown. When the evidence is all in, I believe the White Rock will hold the "blue ribbon" for popularity as the highest grade, large, market variety.

WHAT THE MARKET WANTS AND WILL HAVE

The American markets, and particularly the Eastern markets, demand and pay the highest prices for large, plump breasted, yellow skinned, clean yellow legged roasters. While it is true that the English, Canadian and European markets all appear to prefer so-called "white fleshed" poultry, (i. e.— that having white skin, light colored fat and pale legs) the American buying public does not want and will not buy, if it can get any other kind, the "white" or "turkey fleshed" sort.

Indian-corn-fed hogs and corn-fed poultry are popular with the American buyers. Personally, we do not believe that poultry produced on any other ration equals the properly corn-fed bird as a table delicacy. We have tried the English and other methods of feeding and fattening, and while we were able to get good results, we did not particularly esteem the finished product.

We were brought up on the quick-grown, soft-full-meated, corn-clover-and-beef-scrap-fed chicken, and after that, no "white-fleshed", flabby-meated fowl appeals to our palate. Not even the great American turkey can excel or even equal, the quick-grown "yellow-fleshed" capon. We want ours "yellow" and corn-fed, and in this we are not the least bit lonesome; for there is about as much likelihood of the big muddy Mississippi river running north, as there is of the best market trade turning from "yellow fleshed" to "white" in table poultry.

Right here the White Plymouth Rock, grown for utility purposes, gets in on a bed-rock foundation. It has a bright yellow skin, clean yellow legs, and grows quickly to a large size. As a market fowl there seems to be no doubt that it has come to stay.

WHAT THE MARKET GROWER WANTS.

Mr. J. H. Curtiss, veteran grower of and dealer in "South Shore soft roasters," breeds White Plymouth Rocks that are as big as Brahmas. He says that for making roasters and capons he "wants them big, the bigger the better." Other market growers, with whom we have talked, express the same opinion. They want breeding birds

from two to four pounds heavier than the present standard weights and they get them, too.

From a market poultry grower's view-point, the "Standard of Perfection" for White Plymouth Rocks would read somewhat as follows:

DESIRED WEIGHTS

Cock	12 to 14 lbs.
Cockerel	10 to 12 lbs.
Hen	10 to 12 lbs.
Pullet	8 to 10 lbs.

Back—Long, broad and well formed.

Breast—Broad, deep, carried well forward, full-meated, plump and well rounded. Free from deformities.

Body—Rather long, deep and full-meated with straight keel bone extending well forward to give plenty of room for development of breast meat. Large, vigorous, robust frame to carry a big body; pelvic bones in female capable of being well separated, enough to admit two or three fingers.

Wings—Strong and muscular.

Tail—Well spread at base. Pinched tails or wry tails should disqualify.

Skin—Bright, clean, yellow skin of fine texture, with abundance of yellow fat beneath. Coarse skin objectionable.

Color of plumage—White or creamy white. Plumage should be soft, with medium loose feathering. Hard, close feathering not desirable.

YOUNG WHITE PLYMOUTH ROCK CAPONS AND PULLETS

Legs and Feet—Good sized, medium length, fairly large boned and well proportioned to size of bird. Long "leggy" shanks not desirable. Should be smooth, clean and free from feathers or stubs. Color bright clear yellow; except red in males on outer side of shank, between line of the large front and back scales, is not a defect.

Maturity—Too early maturity or precocity in maturing or laying to be discouraged, as a large soft-meated bird that will stand forcing without quickly maturing, hardening, or going "off its legs" is desired. Rapid growth with slow maturity a most desirable quality.

Other points of excellence in this variety to practically agree with present Standard.

EGG YIELD AND FERTILITY

Messrs. J. H. Curtiss, O. E. Damon and Joseph Tolman, of the "South Shore" soft roaster district, and Mr. Charles E. Foster, of Danvers, Mass., who handles some of the best "North Shore" trade, are all agreed that the White Plymouth Rock is without an equal for the purpose of producing fancy table poultry. They claim for this variety an exceptionally good egg yield for large fowls and unusually good fertility. Mr. Tolman said in December, 1908: "I am now getting a winter egg yield of from fifty to sixty per cent. from a flock of seven hundred White Plymouth Rocks, all large, healthy, vigorous, fresh-air birds. Fertility in coldest weather holds between seventy-five and eighty-five per cent.; the chicks hatch well, and are so good I would like to have you see them. I breed for big, vigorous, healthy white birds. The eggs are the fine, large, brown-shelled kind."

Mr. Curtiss considers the White Rocks, the large kind, exceptionally good layers, of "uniformly colored rich brown

eggs that seldom fade or lose color with age or continued laying, as is common with other varieties."

Mr. Foster, who has tried both White Wyandottes and White Rocks, prefers the Rocks and claims that they are "better in egg production and fertility". He gets remarkably fine hatches and uses incubators almost exclusively, getting out five or six thousand chicks a season. We visited Mr. Damon early in May, and reproduce herewith a photo we made of one of his small colony houses with a flock of fine young White Rock pullets destined to lay eggs for soft roaster production.

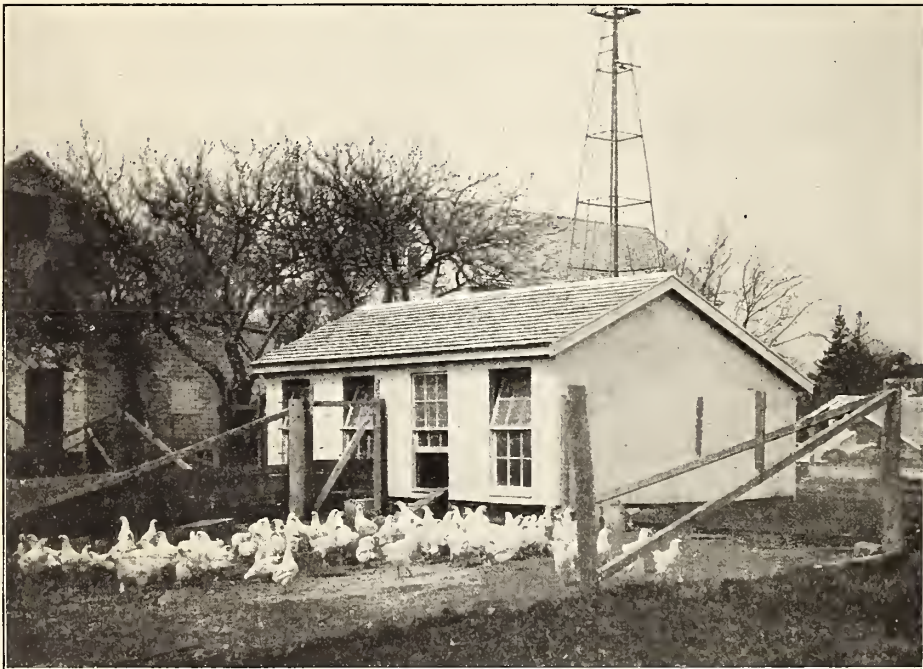
COMPARED WITH OTHER VARIETIES

Prof. George C. Watson, of Pennsylvania State College, in writing of the Plymouth Rocks, says:—"The White variety is preferred by poultrymen who rear young fowls for market. White fowls present a better appearance when dressed than colored ones do, particularly if the fowls are not in the most perfect condition. Immature fowls of all breeds and varieties have more or less undeveloped feath-

equally as good a price for either if of the same quality. He prefers the Whites. Comparing them with the White Wyandottes he considers that the "Rocks make bigger and better roasters and capons. They do not mature and 'harden' as quickly as the 'Dottes' and so will keep 'soft' or in good market condition for several weeks longer. The Wyandotte, though, is always a good shape, excellent market bird."

Mr. Arthur G. Duston, White Wyandotte specialist, of South Framingham, Mass., has claimed that the Wyandottes are best for broilers and will stand early and heavy forcing where Rocks would be unable to keep on their legs. Nevertheless, it is true that White Plymouth Rocks make excellent broilers although they seldom equal the White Wyandottes. Both varieties when properly fed and cared for are usually ready to market at any time from two months to five or seven months old.

Mr. U. R. Fishel, Hope, Ind., comparing the Whites with other Rocks, says:—"The Whites are easier to breed true to color, and the official records show that they are the



White Plymouth Rock pullets intended for breeding stock. Soft Roaster Farm of O. E. Damon, near Hingham, Mass.

ers, the removal of which, in colored varieties, leaves a discoloration beneath the skin. On this account, young birds of a white variety that are dressed for the market, present a better appearance than equally good birds of a colored variety. As long as attractive appearance is a desired quality in dressed fowls, white varieties will be preferred."

Most market growers and particularly all "dry pickers" will say "amen" to the above quotation, yet it needs a little further comment. Birds of the Barred, Buff or White varieties of roaster size will, if "ripe", dress off equally well and present an attractive appearance. If in the pin feather stage or if dressed as broilers, no colored bird can compete with the white in attractiveness. Dark pin feathers are sure to spoil the looks of the finished product, and these with dark hairs, which must be shaved off, are the bane of the picker. With properly ripened roasters or capons it is different; they are "by the pin feather stage," and dress clean. Under such favorable conditions there is practically no difference in the dressed product of the Barred, White or Buff varieties.

Mr. J. H. Curtiss finds little difference between the White and Barred Rocks as to practical value and pays

best layers. They mature quickly, and their white plumage adds one cent more per pound to their value as market poultry over the price paid for parti-colored birds. The feathers from a well-bred modern type of White Plymouth Rock can scarcely be told from the feathers of the Embden goose, and the market value of white feathers is higher than that of colored ones. Furthermore, the White Plymouth Rock, as now bred by all down-to-date breeders, is of a larger size than the other Rock varieties. This does not injure their fancy points, nor their egg production, but it does improve the variety as a market fowl."

CROSSES AND PRICES

Soft roaster growers in crossing Rocks with Light Brahmas generally use a Brahma male with White or Barred Plymouth Rock hens. The result is an excellent market bird that grows quickly and makes a big meat yield in a short time. The reason for using Rocks for the "under" side of the cross is that the Rock hens are usually easier to obtain, lay better, and the eggs are believed to come a better percentage fertile than when Brahma hens are used with Rock males. Either cross gives a good market product and other varieties are seldom used for crossing.

Growing White Plymouth Rocks for market pays equally as well as, and in some cases better than, raising fancy poultry. The market grower is sure of an outlet for all the good quality poultry he can produce. So far the demand has not been satisfied and is considerably in excess of the supply. Mr. Foster, previously mentioned, told us that (at time of present writing, May 10, 1909,) he was getting at retail fifty cents a pound for roasting chickens, weighing from four to seven pounds each, and not less than one dollar each for broilers that weigh one and one-half to two pounds each. That means that he gets for his cockerels (not caponized) from \$2.00 to \$3.50 each, sold dressed, direct to consumer as table poultry; a price many fanciers

would be glad to get for surplus cockerels sold in such large numbers. At the same time price quoted for soft roasters and capons alive in Boston market, was twenty-eight cents a pound, and dealers on the South Shore were buying such chickens alive at the grower's door at twenty-six to twenty-eight cents a pound. Some of these birds six to seven months old would weigh from ten to fourteen pounds each, and yielded the growers, sold at the door, from \$2.60 to \$3.92 each, alive. That comes pretty close to being fancy prices for strictly utility stock, prime table poultry; and prices for late May and June are higher. —Reliable Poultry Journal.

How to Breed White Plymouth Rocks

Ideal Matings of Males and Females that Produce Superior Shape and Color.

By A. C. HAWKINS



I WELL remember the first real good White Rock I ever owned. In the Spring of 1886, I introduced in one of my breeding pens a Barred Rock male from a prominent breeder in the west. In nearly every brood of chicks hatched from this mating during the season there was one or more pure white sport and these chicks matured into large, strong birds with typical Rock shape, rich yellow legs

and beaks, with plumage as white as snow throughout. The undercolor and quills had that pink, pearly white with no trace of creamy tinge.

From this line of Barred Rocks I raised quite a number of pure white chicks and the next season mated the white sports together. From this mating every chick was pure white with the exception of an occasional barred feather in the plumage. This was the origin of my strain of White Rocks, and some of these white sports and their produce were first prize winners at New York for several years.

From these sports I sold a pen to Mr. A. A. Bail of Middletown, Conn., an uncle of the late Harry Graves, who secured the stock from Mr. Bailey. This strain was exhibited by Mr. Graves for several years successfully under the Graves Strain.

It was always an easy matter to breed this strain of White Rocks as they were always pure white and free from brassy color.

An ideal mating of White Rocks should consist of a male not more than one pound above standard weight; if a cockerel he should weigh 8 to 9 pounds; if a cock bird he should weigh 9½ to 10 pounds. Males of this size are of better type and more vigorous breeders than larger birds. The male should be pure white in all sections. He should have a low, evenly serrated comb, with four or five points, bay eyes, solid red lobes, a broad, deep, full breast, a broad back with a concave sweep from the base of the hackle to a well spread rather short tail. A pair of rich yellow legs of medium length and well set apart will complete a breeding male that should do his part in the production of prize specimens.

The females in this mating should not be much above standard weight, pure white throughout with low even serrated combs, bay eyes, broad, deep, full breasts, rather long bodies and rich yellow legs. The backs should be broad and with a gentle rise from the base of the hackle to the end of a broad well spread tail.

I do not favor the long flat backs and tails so common in the show room of late or the extra heavy weights, as the White Rock was not intended for an Asiatic that it takes ten months to mature. Keep the breed as near standard

weight as possible and you will have better layers and more attractive show specimens. The pullet that weighs 6½ pounds and the cockerel that weighs 8½ pounds usually have better type and carriage than a larger bird and the judges should be instructed to give preference to the specimens that are nearest standard size and consider the large, coarse, flat sided birds out of their class.

The active, vigorous, typical White Rock is one of the most profitable utility fowls and will maintain this reputation if bred at standard size and type.



The above cockerel approaches the New Standard ideal in shape very closely, neck, back and tail lines being especially well drawn. Comb and headpoints are also very good. Color of plumage pure white on surface and under. This fine representative of the White Plymouth Rock is one of the best young males exhibited in a number of years.



FIRST PRIZE EXHIBITION PEN
KANSAS CITY NOV. 29 TO DEC. 3, 1910
BRED BY A. D. SEVERE DOWS, IA.

FIRST PRIZE PEN WHITE PLYMOUTH ROCKS AT KANSAS CITY, 1910.

In a row of 171 of the finest White Plymouth Rocks we saw this winter west of Madison Square Garden, A. D. Severe, Dows, Iowa, won first on cock-erel and first on the exhibition pen shown above. The picture was taken a few weeks after the show at our studio in Niles, Mich. In handling this pen we noted their finely developed long bodies, broad backs, full breasts and typical heads and stocky legs with well-formed feet. These qualities gave evidence of blood that breeds the kind of birds that pay those who breed them intelligently. The winnings of Mr. Severe's birds gave his strain a leading place in which is perhaps the most rapidly progressing poultry section of the great mid-west.—F. L. Sewell.

CHAPTER VI

Buff Plymouth Rocks

Origin and Early History of Various Strains. First Exhibited at Providence, Rhode Island, by R. G. Buffinton in 1890



UFF Plymouth Rocks made their first appearance at the poultry shows in December, 1890, the late R. G. Buffinton, Fall River, Mass., being the first to exhibit them under the name they have been known by ever since. This exhibit was made at Providence, R. I. At the same show the late Dr. N. B. Aldrich, also of Fall River, Mass., exhibited the same variety under the name of Golden Buffs.

Both the Buffinton and Aldrich birds were known afterward as the Fall River Strain, the latter being produced by Mr. Buffinton and Dr. Aldrich by crossing Rhode Island Reds and White Plymouth Rocks; also from light colored Rhode Island Reds of good shape. Of course, there was much black in the tails and flights, while the body and wing color was nearer red than buff, but they did have a large proportion of Plymouth Rock blood flowing in their veins. And from the Fall River Strain, many other fine strains were built up, some by the introduction of Buff Cochin blood, to improve the color, others by careful selection of the soundest specimens in color each year, and breeding out the black pigment. The late J. O. Joslin, Tiashoke, N. Y., exhibited a fine strain of Central New York for a number of years in the latter part of the 90's and always claimed they were free from any Cochin blood and contained a very large percentage of pure Plymouth Rock blood. In shape and size Mr. Joslin's birds were of very good Rock type; color was also quite even in surface and sound under, the tails and flight feathers showing very little black peppering or markings.

THE NUGGET STRAIN

One of the most popular strains fifteen years ago was originated by H. S. Burdick, Rome, N. Y., who named it the "Nugget Strain", a happy choice, as specimens of the latter were particularly strong in the golden buff surface color and also noted for the soundness in color of their tail and flight feathers, the latter being free from black or white. Many of the winning specimens of today have the old "Nugget" blood flowing in their veins and owe their soundness in surface and under color to this source.

THE WILSON STRAIN

Another strain of Buff Plymouth Rocks was originated by J. D. Wilson, Worcester, N. Y., who writes about the origin and development as follows: It was reading about the new variety of Buff Leghorns in the *Fanciers' Gazette*, London, England, that strongly suggested the possibility of producing a Buff Plymouth Rock fowl, too. I was at once vigilant looking over the various yards in this vicinity. After many disappointments in my researches, I was fully successful in finding in a relative's yard a male bird that gave me great joy from seeing so typical a Rock. It was the result of a cross between the American type of Buff Cochin and a Light Brahma. He was a beautiful, even, golden buff color throughout, except his tail was nearly black. He had clean, yellow legs, small comb, etc., and weighed twelve pounds. I selected from the same yard two of the best hens, having an even surface color and the least feathering on legs. From these birds the foundation of this popular variety of the Rock family was produced.

I raised that year about forty chicks, the result being

beyond my most sanguine expectations. I selected two yards of very creditable ones from these. I was puzzled over the amount of ticking that showed on their hackles, as the parent birds were perfectly free from that defect. However, I came to the conclusion that it was possibly the result of the Light Brahma blood they contained asserting itself.

The next season brought about a more satisfactory outlook, and they continued to improve until the World's Fair first prize cock, hen, cockerel, pullet, and pen were produced. Not any of these birds were ticked, and two hens were nearly solid buff. Of course, they had their defects. Some excelled in one section and some in another, no one specimen having the much-desired whole that was close to the enviable ideal. The advancement since their creation, reaching a point in breeding where not a bird shows any ticking or feathers on legs, with a uniform covering of golden buff plumage, is certainly phenomenal in so short a space of time as ten years.

In the World's Fair collection were several that now would hold their own against strong competition. The first prize hen continued to win at Madison Square Garden, New York, until her death in 1897, and several from the pen were sold to an English breeder. Had I been told by some reliable Buff Cochin breeder at the commencement so as to have strengthened my own convictions, to breed to the Buff Cochin color solely, the present color lines in the variety would have been established two or three years sooner. Unaided by experience in breeding the buff color, I was obliged to grope my way along with but weak light on the correct color lines. After placing them in show rooms, the judges, critics, and breeders so differed in their ideas as to bewilder. No harmony seemed to exist between them on an established shade of buff color.

Is it not gratifying to know that they possess sterling qualities beyond any other new variety? I will now call your attention to what I have learned in my study about color, and how I have mated for best results. From my present experience I would suggest that you do not use male birds in mating that are too deep in color, nor those containing solid white feathers in wings or tail. An orange tint of buff is sufficiently pronounced to correct any tendency to a pale lemon shade, and this is true after breeding for several years the Standard golden color. Nor would I advise the use of a male with red wing, bows, or coverts. I find male birds that carry a slightly deeper colored hackle, back, and saddle than breast and thighs make very strong breeders. My preference, however, is for a male with continuous golden buff color throughout every section.

I would also discourage any attempt to make two separate matings to bring about a male and female standard in your yards. My strain has not been bred on those lines. They are line bred and will show strong and recognizable features in their progeny. I have also profitably used males one shade darker than the females, or females one shade darker than the males, as the case might be, whichever one of them possessed the Standard golden color.

Until recently solid buff male birds were unheard of. And it is very questionable whether there is one now good in other desirable sections. I have raised solid males, but

they were too faulty in other particulars to be of any value other than to experiment with. In my matings of males and females that were perfectly solid in color, the result was very disappointing. The tendency was to white on wings and tail, with almost white shading to quills, and also quite far up the shaft of the feathers, destroying the much-desired soundness of good buff under-color. I feel, however, that by the time the next Standard is published this feature will be under sufficient control to produce satisfactory results from just such matings. I have found it impossible to correct any defect in one or two season's matings; all is reached gradually with patience and perseverance, which are the only safe lines to work on to establish strength in direction in breeding.

The females in your matings are really the most im-

portant for obtaining size. Use large hens with full breasts. To modify the plumage trust the male bird. Over large male birds are not desirable. As a rule they are deficient in Rock shape, resembling the Java in type. Birds of the grade desired for the show room are very scarce. Only very few crop out in a season's breeding, although a majority of the others are creditable. It is on account of the scarcity of such specimens that makes the demand far beyond the supply at extremely long prices.

In conclusion, I must caution you not to be discouraged with a poor season's result. Especially so if you have been working with the belief that it is necessary to introduce a new line of blood. When it does become necessary be sure you are obtaining the same strain from a distance for safety. Keep your line strong and intact.



In looking over the Buff Rock class at the last Chicago Show, we were especially taken with an undeveloped cockerel that gave promise of remarkable type and color. At the time we predicted he would develop into a wonderful specimen. Two months later, when he had developed and matured wonderfully, we readily recognized him at the head of the first prize pen at the Pittsburgh Show. It was while showing this bird to Artist Schilling and commenting on his color qualities that he was likened to a "sunburst". The term stuck and was adopted as his name. His owners, the Vierheller Bros., were never better pleased than with their success in producing this favorite and valuable specimen, and well may they be proud of him, for he is one of the best birds of the year.

Line-Bred Buff Plymouth Rocks

Breeding for Standard Requirements Described and Illustrated. Valuable and Interesting Experiments in Line Breeding. Results of Mating Various Shades of Buff. Influence of Black and White in the Plumage of Breeding Stock. Defects to be Avoided

By ROBERT H. ESSEX

[EDITOR'S NOTE:—This instructive and comprehensive article was written by Mr. Essex in 1905 and appeared in the 1906 edition of "The Plymouth Rocks." It is reprinted in the new edition of the latter, after being carefully revised by the author. The descriptions of the illustrations, however, date back prior to 1906, when Mr. Essex was still interested in breeding Buff Plymouth Rocks.]



HAVING bred Buff Plymouth Rocks ever since their admission to the Standard, I believe I am justified in expressing the opinion taken from a utility point of view that this variety has few superiors among fowls. It appeals very forcibly to fanciers, no matter what their hobby may be. To color fanciers it affords great opportunities for experimenting, interesting hours of study, and remunerative pleasure. To the breeder who has an eye for symmetry, and who believes (as I do) that a misshapen Plymouth Rock is no Rock, it opens a great field for molding a formation that meets the ideal. The broiler raiser laughs in his sleeve, as day by day, he handles the rounded breasts, glances at the yellow legs and anticipates the enjoyment of his customers who select the rich looking morsel that has developed beneath a plumage which tends to perfect the yellow skin so much desired. Finally, to the poultryman who wants a big bird or nothing, it presents a frame that of itself, without the prevalent fattening-for-show process, is naturally up to standard weight.

The ability to breed winners is not rare, but the persistency which commands success is frequently wanting. Many a man has headed the list of winners in a lucky year, only to be disappointed with the class of stock he has produced the next. An accidental mating may favor a breeder once by supplying him with superior stock, but want of method invariably causes a set-back the following season. To obtain lasting benefit from accidental productions the fancier must either know enough of his breeding stock to identify the winning strain of blood so that he may utilize it, or he must continually and methodically experiment until he discovers it. Then his business is to impress it on the flock. That is done by line-breeding.

Years ago, theory and the example of successful stock breeders led me to attempt the improvement of my flock of Buff Rocks by line-breeding. At the end of those years, practice has convinced me that it is the most satisfactory way of producing desired results.

By the way, let me say to the budding fancier that in Buff Rocks, as in any other fowl, more than half the battle of breeding winners is won when you have mastered the art of bringing your birds along. Health, continual health, secured, then it is merely a question of time and a selection of the best,—that is, speaking generally. Health means color, not merely in enhanced glossiness, not merely a brighter plumage, but actual color, the difference between buff and white—the difference between buff and black—in fact, the difference between buff and whatever color defect the parent birds may have had. The color of the weakly bird is partly governed by the color-transmitting proclivities of its stronger (because more healthy) ancestors, while its ill-health renders probable a lack of life in the plumage and a departure from the true buff. The color of the vigorous bird is controlled partially by its parents, but principally by the mating of its sire and

dam. If the mating is not a correct one it leads to the resurrection of defects. Assuming that a flock is vigorous, the longer it is bred in line the nearer it approaches perfection, if mated intelligently.

I will give my experience in line-breeding Buff Rocks, but before illustrating my method of breeding will describe the Buff Plymouth Rock I have been striving to obtain—the standard-bred bird.

NO SHAPE—NO BREED

Shape will be my first consideration, it being the most important.

Buff Plymouth Rocks, in many instances, partake of the Wyandotte shape, having short backs, with more abrupt curves than are desirable. The Wyandotte tail often accompanies this defect, as well as short legs. It would be well for breeding purposes to discard such birds unless they are especially good in other respects. The other extreme is sometimes met—a leggy bird, deficient in breast and body filling. Often there is the conformation of the Cochin, which is chiefly evidenced by a full cushion on



FIGURE 1.

TORONTO MAID. Six years old. A hen that for five consecutive years has been bred back to her male produce. This hen gives an exaggerated idea of the style of Buff Rocks exhibited five or six years ago. The insecurity of the small table upon which she is standing caused her to dip her tail more than usual, yet it is evident she is far from possessing the shape of a present-day Buff Rock. Her color when through her molt is fairly even, but of a darker shade than is required. From this style of female many good shaped birds have been bred by following a correct system of mating. Size she possessed above the ordinary, and has transmitted that quality.—R. H. Essex.



FIGURE 2.

MISS SHAPELY II—Breeding for shape and size has been effective in the production of birds of the above type. This hen, not being through her molt, is deficient in feathering at junction of neck and back: A few old feathers too are visible throughout plumage. She is in good breeding condition and weighs over eight pounds.—R. H. Essex.

the female. One strain partakes of the characteristics of the Buff Leghorn and the Rhode Island Red; and we have been informed that one of the originators acknowledged having used these breeds in the formation of his strain. That strain is distinguished by a lack of size, while possessing good color. They are naturally subject to whites in lobes, which defect must be strenuously fought against. When a good strain is once established, these troubles are few. New blood causes defections. Care in mating, and pedigree will stamp them out.

To illustrate what can be done by line-breeding, I will refer to a hen, "Toronto Maid" (Fig. 1), which is now nearly six years old. She is full feathered and full cushioned. During her show days she was a continual winner, as was her mother before her. That was four or five years ago when Buff Rocks were less shapely than now. She is far from being a typical Plymouth Rock. (Judges were easy on Rock shape in those days when judging Buffs.) This hen is nearly identical in shape with her dam, "Toronto Miss". The similarity in shape is accounted for in a way by the fact that her sire was a full brother to her dam. "Toronto Miss" was the mother of my flock. She was a dark pullet, approaching cinnamon in color, with wings and tail nearly clear. She was big, and it is chiefly from her that my birds derived their size and their strength of color. To this female I separately mated four cockerels, and this was the basis of my Pedigree Strain. The produce of two of these cockerels were of little account. The third cockerel produced large stock. This line has been maintained and the birds are easily identified by their size and shape. An idea of their size may be gained when I say that at the Ontario show in 1897 (held that year in Guelph) one of the pullets from this mating was mistaken by the judge for a hen. She was up to hen's weight, and that was the first or second week in January. She was named "Miss Guelph" to commemorate her winning. The shape of this female

was not altogether satisfactory to me. I wished to get the true Rock shape, and based my ideal upon that illustration in the Reliable Poultry Journal in the year mentioned. Being always an advocate of size, I aimed to produce a longer body rather than a shorter one. I had in mind, too, the desire to keep away from the Wyandotte shape then prevalent, and which even now has not disappeared entirely from the show room.

I have no photograph of "Miss Guelph", but remember her as one of the biggest females I ever owned; long in back and standing well up on her legs. Her sire was possessed of a long back, a drooping tail, and an even, medium color. I wish to show the mating I adopted to produce the desired shape.

"Miss Guelph" was mated to "Emerson" (Fig. 3), (more particularly referred to below), and this mating produced a female of good shape, having better head points than "Miss Guelph", and being less coarse throughout. When a hen she was mated to "Emerson's Son", one of the best shaped males I have bred. He was well balanced, medium in length of back, breast full, a bird in fact whose shape caught my eye from the time he began to round out as a cockerel. The result of this mating was the hen shown in Fig. 2. In producing a hen from this mating the male line has certainly modified the shape of the female line, although it is generally claimed that the female governs the shape.

The fourth male was the best pullet breeder of all, and I obtained from "Toronto Miss", when mated to him, a pure colored pullet, light in surface color. "Toronto Miss" transmitted size to this pullet, and I named her "Toronto Maid." Her sire was named "Toronto Master". That pullet is now the old hen shown in the illustration, Fig. 1. "Toronto Master" unfortunately died, leaving no male produce to suit my requirements. I therefore had to introduce outside blood to mate with "Toronto Maid." It was a long time before I got a bird to suit, but finally I secured a young cockerel which I thought would suit my purpose. He was medium in surface color with wings nearly pure buff. At that date (1897) he was considered an extraordinary bird. His chief fault was want of fullness



FIGURE 3.

Buff Rock Cockerel EMERSON, used as an out-cross on account of the death of the head of the male line. This bird was nearly pure buff, the main tail showing less than fifty per cent. black, the primaries being pure. This photograph was taken five years ago, in 1897.—R. H. Essex.

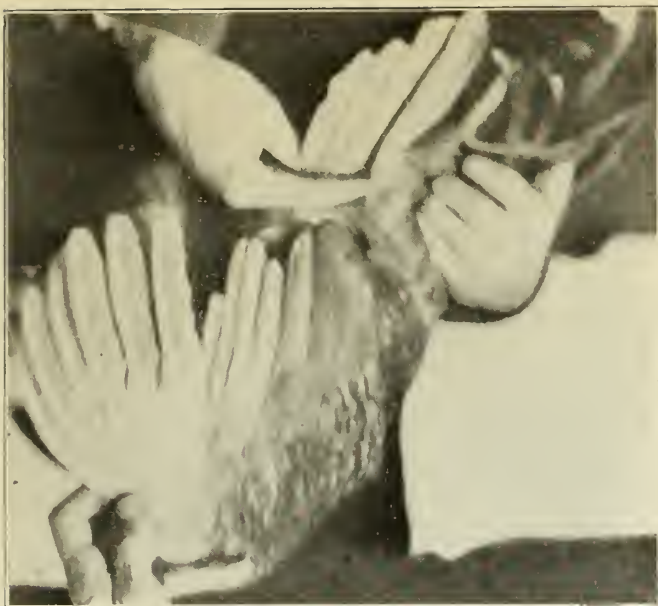


FIGURE 4.

Wing and Tail of Buff Rock Cock SUCCESS, illustrating result of inbreeding for a period of five years. Notice the row of small feathers at the base of the primaries—they too are solid buff. The main tail feathers are also shown. For full illustration of this bird, See Fig. 9.—R. H. Essex.

and depth in the breast. He was leggy. It was, however, not such a serious fault in this instance, as he was to be mated with a pullet which possessed the opposite formation. This male I named "Emerson." (See Fig. 3).

RECOVERING A LOST MALE LINE

Let us make a start with this introduction of new blood. The object is to get back into my flock the blood of the cockerel, "Toronto Master", he having left no mate produce.

How is it to be done?

By securing it through his daughter, "Toronto Maid". But remember, it had to be done with the aid of strange blood—the cockerel "Emerson". Let us go back to him. I bred him to "Toronto Maid" in 1898, and obtained a good Rock shaped cockerel with a medium sized comb, slightly lighter in color than his sire. This cockerel inherited one-half the blood of "Toronto Maid", and she being identical in blood with "Toronto Master", he therefore inherited one-half the blood of "Toronto Master". He was named "Emerson's Son". In 1899 this son of "Toronto Maid" was bred back to her and from the mating I obtained "Maid's Son". He possessed three-fourths of the blood of "Toronto Maid" (one-half direct, one-fourth through "Emerson's Son"); that means he possessed three-fourths of the blood of "Toronto Master".

Carrying out this plan of inbreeding to recover the blood of "Toronto Master", I mated "Maid's Son" to his grand-dam, "Toronto Maid", that being the third year I had used her as the central figure in my breeding operations. That gave me a cockerel having seven-eighths blood of "Toronto Master"—three-eighths through the sire, and four-eighths through the dam.

During these years I had been selecting cockerels lighter in surface color than my original stock. The persistent selection of cockerels of one blood has had the effect of strengthening their color-producing power, and each year the proportion of good colored stock has increased. It has ever been my endeavor to retain the size and improve the shape. Selection for color has been a secondary thought. Several pure buff females have appeared from time to time, the males too have been good

enough to win, but until 1900 I had not been successful in breeding a clear buff cockerel. (By clear buff I mean clear throughout; and the word "throughout" as I understand it does not apply only to the surface. It includes wings and tail; not simply tail coverts and sickles, but main tail—not simply wing primaries, but the whole of the wing. The words "pure buff" and "buff throughout" have been bandied around too freely, and need to be more clearly defined).

The mating of "Maid's Son" to his grand-dam produced a bird I have named "Success". (See Fig. 4). He is the pure buff cockerel (now a cock) I have referred to. He possesses seven-eighths of "Toronto Master's" blood, seven-eighths of the blood of a male that has been under the ground five years, and the whole of this blood has been regained from the female side.

"Success" in 1901 was mated to his great-grand-dam, but I have only one pullet that I can identify with certainty as the produce of the mating. My calculations were knocked out by the old hen frequently becoming broody, and laying but few eggs. Twice in the season I coaxed her to take chicks that were hatched by other hens, and that method served to keep her from the nest, but so far as being an inducement to lay eggs, it was a failure. For all practical purposes, however, the strain of blood of "Toronto Master" has been restored to the male line.

This line breeding has produced the best Buff Rocks I ever owned. It has given a strength to the blood that is invaluable and its effect can be seen by examining the accompanying illustrations. Figure 5 shows a young son of "Success" which has been named "Successful". He is nearly as pure as his sire, although his sire and dam are not closely related. Of course his dam is in a degree related to his sire, my whole flock is, but the relationship is not so close. I believe that such strength of blood will overcome the results usually produced when two distinct strains are mated. Both lines being equally well bred the outcome is uncertain, but a line possessing strong characteristics induced by a long term of inbreeding will dominate opposing blood of less intense character and will enforce its strong points whether good or bad.

PEDIGREE OF A LINE-BRED MALE

We present herewith the pedigree of two-year old cock "Successful", illustrating the recovery of the blood of a male line by the aid of a female.



FIGURE 5.

Wing and tail of SUCCESSFUL, a son of Success, out of a female distantly related. Illustrating the strong color-producing power of line-bred stock. Not a white or black feather in the bird, although not closely inbred.—R. H. Essex.

The original male, "Toronto Master", and the original female, "Toronto Miss", were brother and sister. "Toronto Master" died, which necessitated the introduction of new blood. This was done through "Emerson". By mating "Toronto Maid" to her own sons for a number of years the original blood has been renewed in the male line, "Success" possessing seven-eighths of the blood of his ancestor, "Toronto Master".

SUCCESS			
MAID'S SON		TORONTO MAID	
Mated	1900	Mated	1900
EMERSON'S SON		TORONTO MAID	
Mated	1899	Mated	1899
EMERSON	TORONTO MAID		
Mated	1898	Mated	1898
TORONTO MASTER		TORONTO MISS	
Mated	1896	Mated	1896

SUPPLEMENTARY LINES

This all reads very simply, and an inexperienced person may think it is only a question of mating the birds, marking the eggs, punching the chicks and re-mating them at maturity. Then, after a year or so, it will be so simple to pick out the winners.

A breeder who has been long in the business will know that contingencies arise for which we are unprepared. Accidents will happen. Male birds fight. They get over fences into adjoining pens. Then all is uncertainty. No use punching the chicks; no use marking the eggs. If the breeder is in earnest a couple of weeks or so are allowed to elapse before starting afresh. Then perhaps egg orders come in thickly, and customers must be satisfied. Hens get broody. It is late summer before there is an opportunity to hatch chicks from the required mating. The next spring cockerels from this hatch are

not old enough for breeding purposes and another delay is occasioned. It is all very well to say "be careful". These things occur. They delay operations; and where to the beginner there seems to be nothing to prevent every cock, hen, cockerel, and pullet in the yard being tagged with his or her number signifying everything that one wishes to know about them, the experienced fancier has to be content to go very much slower than that.

These little troubles are aggravating beyond their importance. Take the case of delay after two pens get mixed—a door having been accidentally left open. Say we are breeding from two males; one in each pen. We lose two whole weeks because we are not certain which male has fertilized each individual egg. And my! How those eggs do hatch. The next season we have hundreds of first-class fowls running around, bred, we know from those two cocks, yet we are unable to band them because we can't tell "which is which". What makes it even more aggravating is the fact that we know in our minds "that cockerel is the son of that cock; so is that one, and that. Look at the similarity in shape. We feel sure of it." It's quite clear—yes, but not clear enough for line-breeding.

The recital of a few mishaps such as these illustrates the necessity of breeding in more than one line, so that in case accidents cut short the experiment in one line the work of years will not be altogether lost. My practice has been to breed in two or three lines, occasionally introducing the blood of the main line to the auxiliary flocks; at other times following up some quality peculiar to one of these flocks.

For instance, in one of these side lines "Ontario Miss", a prominent winner at Ontario Show and at Toronto during 1887 to 1899—an old time hen of superior surface (a color that never failed her even when aged), by reason of her color-retaining quality, was made the central figure. To secure in this flock the quality peculiar to her, she was bred to her son, who, on account of her quality, was named "Colorfast". He was by "Emerson's Son". The produce from this mating possessed nearly one-half blood of the main line. This would be a great advantage and a



FIGURE 6.

To the right is shown the wing and tail of a clear buff hen. Her surface is of a light shade throughout. To the left the wing and tail of her son illustrated. The sire of the young male is the cock Success. The young cockerel possesses a little black, but no white. This is given as proof that the mating of two pure buff birds does not necessarily produce white in plumage, as is sometimes stated.—R. H. Essex.

time-saver, a year gained in case it was desired to bring some color making material into the main line.

These side lines, if they may be so called, have been continued from year to year. Short descriptions will show the property peculiar to each, which, although a secondary consideration, is important.



FIGURE 7.

Wing of a cock possessing both black and white. The white is visible in the primaries. Fifty per cent. of the primary coverts is black, also a small proportion of the primaries. This cock is a sire of birds possessing neither black nor white in plumage, which proves the value of line breeding. It shows that the color-producing power remains strong, even though defects may crop up for a generation, as they frequently do in new breeds.—R. H. Essex.

Out-cross No. 1. Centered around the male "Colorfast", a coloring producing or rather a color-retaining line related to the main line in a proportion of nearly one-half.

Out-cross No. 2. Represented by a cockerel "Successful", by "Success". His dam is unknown, but is related to his sire. This might satisfactorily become the main line in case of accident to its head.

Out-cross No. 3. Half brother to "success" on the male side; dam related. Line is maintained for superior tail furnishings and a richness of color in the wings and tail.

I have before said sufficient to show the advantage of having ready to mate birds partially related, and these few references to particular out-crosses illustrate that any superiority which may appear in these side lines should be kept in view and made the most of in subsequent matings; then while the main line is speedily moving along towards perfection, the side lines are also progressing in at least one important section aside from its general improvement.

DOES MATING PURE BUFFS PRODUCE WHITE?

The possession of "Success" has enabled me to conduct other experiments.

It has been so often theoretically said that the mating of two clear buff birds will produce white in plumage that I thought it well to test it.

As I wished to leave no doubt, I selected the lightest colored pure buff hen I had and mated her to "Success." It was late in the fall, and I saved from the hatch only two chicks, a cockerel and a pullet. Now I have only the cockerel and a pullet. Now I have only the cockerel. Although he is yet young his plumage is far enough advanced to decide what he will be when matured. He certainly shows no white. His primaries are pure buff. The small feathers at their base possess some black. His surface is even; tail coverts show clear, and his main tail about 75 per cent. buff. I do not wish to argue that in no case will such a mating throw birds with white in plumage—simply that in this case it did not. This instance is certainly evidence that a line bred pure buff male will hold the color in some of his get, even when mated with a hen that is deficient in strength of color (see Fig. 6). But I ought to add that from the start, year after year, I had avoided white, in

favor of black, where either one or the other had to be accepted. There are advantages and disadvantages in both.

DOES PLUCKING FEATHERS CAUSE WHITE?

Here's another point that has interested me. Does the plucking of a wing or tail feather necessarily cause white in the feather that replaces it?

No.

Did you ever notice that the best bird most frequently gets into trouble? By some means unknown to me, "Success," my best cock, lost the whole of one side of his main tail. Late in the summer I noticed his tail seemed an odd shape, and upon examining him found that one side of it had been plucked clean out from top to bottom. I attributed it to a "bird-dog", as they are commonly designated in the West, a setter, that had "nosed" his way into my yard. Anyway, one side of the tail was gone, and I shivered as I anticipated the white feathers that would grow in place of the old ones. The illustration shows that they grew in as good a buff as ever. The feathers plucked were new, the tail being only half grown after molting (see Fig. 4).

BLACK AND WHITE IN BREEDERS

One other experience in breeding Buffs, I will give. I might add several, but want of space forbids.

It does not necessarily require a pure buff male to produce clear buff progeny. The rule that demands a breeder possessing no white is not invariable; and my own greatest objection—a mixture of black and white—at least once has proved erroneous. A male now in my yards is the sire of as good stock generally as I have bred prior to this year. He possesses both black and white in his make-up; and although this old veteran has now only one eye, that doesn't figure in my calculation that he will again head one of my breeding pens.

(Since writing this the bird is dead. My calculations did not "pan" out).

The wing is illustrated in Fig. 7. I saved it for the benefit of readers.

SURFACE AND UNDER-COLOR

There are many shades of color that go under the name of buff. They range from a dark cinnamon to a light



FIGURE 8.

The chief defect which appears in a flock when, after years of endeavor, they are approaching solid buff, is a mealiness or dusting of light color upon the surface of the wings of females. This photo was taken in the absence of the writer, and gives more importance to the primaries than to the wing surface. Upon close examination near the top of the wing, however, the light color referred to will be seen. If the primaries had been closed and the wing drawn down, the defect would have been visible upon nearly the whole of the wing surface. Frequently such birds have pure wings and tails, as is this case. The defect increases with age.—R. H. Essex.

lemon. In hens, what has been a lemon buff in their young days frequently bleaches until there is little resemblance of buff left. We see it in the show room; a lifeless, colorless plumage that is neither white nor buff. These are the hens from which are produced lemon buff males—

males which as cockerels possess a bright, perhaps even plumage, often with superior wings and tails, but which never regain their color once it disappears. The breast becomes light, the back becomes lighter, and after they pass the age of maturity, they are not what I consider a success in the show room, and their breeders generally relegate them to the breeding pen to breed some more washed out specimens.

Years ago the prevailing color of males was much darker, and the females as hens held their color far better than now. Then the show males possessed reddish wing-bows, but aside from this defect the better class of birds were golden buff.

Gradually we are coming back once more to the golden buff. It has been found that the lemon buff male not only loses its color at the end of the first year, but produces young that inherit a similar defect. The golden

hold their color no matter how old they may be—then they will breed for this sound golden color, and it will become the general thing to see golden buff predominate in the show room. It is coming, and the breeder that possesses it will stand at the front while the others look on.

SOME OF THE DEFECTS

The mistake of introducing a dark male to a light female, or *vice versa*, is often made. Sometimes it is unavoidable. The first results of such matings are generally disastrous, although a foundation for experiment may be obtained in this way. As a rule, the female produce of such a mating will be mottled or mealy; yet there are exceptions. If the male birds have been bred in line for years, they will possess great color-transmitting power and many of the chicks will partake of their sire's color; then by breeding back, the color may be incorporated in the stock. The mealy birds usually excel in under-color, inheriting this quality from their darker ancestors. On some occasions when the defect has not been too great, I have bred such birds back to a male of the same blood, so as to retain the superior under-color which is apt to breed out as the birds become lighter: on the surface; and as some judges pronounce under-color equally as important as surface color, it is necessary for the exhibitor to consider this. Frequently these mealy females possess pure wings and tails, (see Fig. 8).

In both Barred and Buff Rocks, I think the requirement of under-color has gone too far. "Barred to the skin" and "buff to the skin" are pet sayings that make me tired. The surface color of a fowl is all that is visible without the handling, and if this is sufficiently beautiful, why go deeper? If it is because these faddists consider under-color requisite in breeding for retention of surface color, why not let the matter rest altogether with the breeder? He will get the ideal surface color in some way if he wants to win, and why should his route be undeviatingly mapped out? If the ideal color can be maintained on the surface without the addition of a corresponding under-color, then it is arbitrary to demand that the under-color shall be a specified shade. Is the beauty of a wild bird any the less gratifying because we cannot fumble with its under-color? I think not. Under the Standard, however, we must breed for buff under-color. If the surface be pure buff—really buff, not reddish, nor lemon, the undercolor will follow.

A very serious defect in color of Buff Rocks has been black in the hackles of females. It seldom appeared in male birds. Having been early impressed with the prevalence of this trouble, I have watched closely to prevent it. Many birds so affected have otherwise superior surface color, and I was once tempted to breed from such a hen. She transmitted her beautiful surface color, and, in most instances, the faulty hackle.

At the annual show of the Buff Plymouth Rock Club, held in connection with the Buffalo, N. Y., show in 1893, there were, according to the show catalogue, twenty-five pullets entered. I examined those on exhibition very closely. Only fifteen were what would then be considered first-class, and my notes tell me that of those fifteen, four possessed black in hackle. I mention this to impress upon the reader the necessity there was for stamping out such a general defect. There has been a great change in three years. At Buffalo, 1901, Pan-American show no such pullets were shown, and although I examined the stock closely without handling, I could not detect this defect in the least degree.

CONDITIONS THAT MAKE GOOD BIRDS VALUABLE

Feathers on shanks of Buff Rocks frequently cause trouble, as is to be expected in some strains by reason of their origin. The new Standard is more severe than the old with reference to this; and many birds which formerly won would be disqualified if now shown. Selection of breeders is the only method of counteracting this failing,



FIGURE 9.

In evidence of the fact that while breeding for color, size may be maintained in line-bred stock, we present an illustration of Buff Rock cock SUCCESS, which is buff even to the main tail. His ancestral line will be found in these columns. SUCCESS is eighteen months old. The photograph gives an idea of his size, but does not do justice to his shape and head, by reason of his motion when photo was taken. He has pure buff wings and tail; even, medium surface, and the best male I have yet produced.—R. H. Essex.

buff that is exhibited in the best Cochins is the color we are after, and when the Buff Rocks become settled down, that is the color which will govern and stay with them, if they are to continue a favorite variety as they are now. It is not very difficult to secure the male and female so nearly alike in color as to afford no contrast when exhibited in the same pen. The color that is exhibited on the best pullets these days will eventually also be exhibited on the best hens. When breeders generally make up their minds that the rich buff is the color that will do their favorite variety most good—that it produces hens that



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MANZ COLOR TYPES CHICAGO

NUGGET BUFF PLYMOUTH ROCKS

In the above illustration of "Nugget Buff Plymouth Rocks" Artist Sewell has reproduced the beautiful tones and effects of "rich golden buff" found in the original subjects, which closely approaches the shade required of standard ideals. The Nugget Strain, originated by H. S. Burdick (deceased), is now being bred by Stephen Marsh, Constantia, N. Y.

though I do not advocate the exclusion from the breeding pens of birds that are otherwise excellent, unless the fault is very pronounced. Many chicks will be free from stubs, even though their parents were so disfigured; and many hens will have stubs, although as pullets their shanks were free from them.

One more warning, and that with reference to ear-lobes. White in ear-lobes sometimes appears, and this is a failing that the Standard considers of the utmost importance. Unlike the black in hackle, this affection is not confined to females. Watch for it and fight it. Pale lobes are not necessarily white. Birds in ill-health, or long confined in show rooms, frequently exhibit pale lobes, but as health and freedom return, so does the original color.

Changes occur with age of Buff Rocks. Defects arise in matured fowls which did not appear in their younger days. Similarly faults disappear which were formerly obvious.

We sometimes, therefore, have pleasant surprises as well as disappointing experiences.

This long list of troubles may scare the intending fancier of Buff Rocks. Let it not be so. The greater the difficulties, the greater the field for the expert; the more difficult the task, the higher the reward. Even now the best strains in the country have comparatively few of these troubles to contend with, and the good birds sell freely at high prices. During every year of my experience in breeding Buff Rocks the demand for high-class birds has exceeded my supply.

In conclusion let me advise especial care in recording the results of breeding with individual birds. It is not always the best show bird that holds the record in the breeding pen, but as your birds become more and more line bred, so will the better show birds become more and more the better breeders.

Building Up a Strain

Beginning With One Male And Three Females. A Fine Strain of Buff Plymouth Rocks was Established by Systematic and Judicious Inbreeding

By F. C. SHEPHERD



HE breeding and bringing of the Buff Plymouth Rocks to their present state of perfection has taken more time, thought and skill than a majority of fanciers believe. When you stop to consider the years of study and patient work that have been spent in perfecting the color of the Buff Cochin, and then recollect that the same color has been produced on the Rocks, you get some idea of what has been accomplished.

You have requested me to give you a short article on how I have succeeded in producing my own. At the start I wish to state that I am aware of the fact that the plan I have pursued is in direct opposition to that advocated by many, I may say, perhaps, a majority of breeders, but it is the only way in which I knew how to breed, and the only one in which I could see (when looking at their future, years ago) how they were to be improved in color and shape. I thought then, as I am convinced now, that it would be waste of time for me to try to make any improvement by buying the best I could find each year and mating them to my best, for, bear in mind, in order to be successful we had more to do than to merely reproduce. We must improve. Reproduction without improvement was time lost. I had had experience enough in breeding other varieties to know (or to believe I knew) that in mating the best to the best, with no idea or regard as to their blood lines, or the breeding back of the individual, if I got a good specimen it was a mere chance or a good one "by luck."

I began my strain with four birds, a cock, a hen, and two pullets, or, I might more properly say, with three, for the mating of the cock and hen produced nothing that was worth saving; so she, with all her progeny, was destroyed. From the cock and two pullets all of my birds are descended. At the beginning I purchased two pullets (sisters) that were as near what I wanted as I could find, and later I found a cock that suited my idea, from an entirely different strain. He was as good in color and shape as it was possible to find at that time. These were mated, and my work began.

The eggs from each female were kept separate, and when hatched every chick was marked. When they ma-

tured I found that the chicks from the hen referred to were a mixed lot of about everything, and they and the hen were discarded. Of the other two, which we will call No. 1 and No. 2, I found that the pullets from No. 1, as a rule, were much better than the cockerels. In fact, she produced two pullets quite the equal of herself. The chicks from No. 2, as a lot, were better than her sister's. I selected two of her pullets nearly as good as she was and a cockerel that was much better than the cock.

Here was a case of three "haphazard" matings. One had proved worthless; with another I had about held my own by producing two pullets the equal of their dam; and from the other I had two pullets the equal of their dam and one cockerel better than his sire. It was a very "lucky" mating. The question then was, how not only to hold my own, but how to keep up the improvement.

The following season the matings were made up thus: With the cock I mated No. 1, her best daughter, and the poorer of No. 2's two best daughters, thus giving him his old mate and two of his best daughters. In the other pen I placed the best cockerel (son of No. 2) with his mother, his best sister, and the poorer of the two best pullets from No. 1; and again I kept all the eggs separate, marked all the chicks, and awaited results. From these matings I became more convinced than ever that direct inbreeding, using proper care and judgment, was the only way in which I could breed with any degree of certainty of what the result would be.

From the cock and No. 1, I again held my own by reproducing one or two pullets about her equal. From his best daughters I got several pullets better than their dams, while in cockerels from the daughters I had quite a number that were the sire's equal or better. But two years had now passed and the cockerels that were no better than the best two years previous were considered of not much account, hence my matings with the cock this season had advanced me but little.

With cockerel mated to No. 2 (his mother), I found I had made more rapid strides. Not only did the pullets come better than the previous year, but the cockerels had improved. A majority were equal to their sire, while two

or three were far superior. From his own sister he had a number of good pullets and cockerels of about his own standard, while with the pullet from No. 1 (his cousin, so to speak), he did only fairly well, and none of his chicks showed any improvement.

It would become tedious to go on with the following years in detail. This brings the breeding down two years, and that will suffice when I say I have continued along the same lines since. It is inbreeding in its closest form, and I repeat it is the only way that I know how to breed them. Aside from the first pair of birds which I bought, I have never bought or added new blood to my strain, except in

one instance. I once bought a pullet which was bred from a pullet which I sold the year previous. With this exception, all the birds I have ever shown were descendants of the three first mentioned.

I am aware that many will disagree with me on this subject. I have heard it argued pro and con. I know many of the arguments that can be brought and facts that can be stated to show that I am wrong. To it all I have no reply to make. I simply point to my poultry yards. If you will show me there specimens with any symptom of loss in vitality, vigor, size or beauty, then, but not till then, will I try to breed them some other way.

Defects Of Buff Plymouth Rocks

Faults In Color And Shape And How To Remedy Same

By C. L. PENSYL



HIS breed has been greatly improved the last few years in all sections as required by the STANDARD OF PERFECTION, but the writer having had the pleasure of attending for four years' consecutive some of the largest shows in the country, has made a close study and observation of the best specimens exhibited at our leading shows and has seen some great birds in this variety, but find most of the best specimens still require more size, better shape and smaller combs.

You will see grand colored specimens, nearly or quite solid in color, but they lack very much in size, and I believe a great many of our Buff Rock breeders are paying too much attention to color and not enough to size and shape, and as long as this is practiced we will never get our birds up in size with the Barred and White varieties or the required Standard weights. I believe the judges of the shows will make no mistake for the advancement of this breed if they will give the preference to the bird that has the size, if he is a trifle weaker in color than the smaller bird, and as soon as our judges will practice this more I believe we will soon see Buff Rocks of the Standard size of which we so seldom see on our blue ribbon winners at a great many of the leading shows, and the breeders will still continue breeding small birds of this variety if the judges will turn the larger bird down on account of him having a trifle bit of grey in the wing when the smaller bird has a solid wing.

I consider a defect like this is more easily overcome than to get the standard size, or at least I find it so, but at the same time in our matings we should hold to good even color, and by no means should any breeder use a mating, using mealy colored females with an uneven colored male bird, for you will never gain in producing the

desired even color. If your females are uneven, use the most even colored male that you have or can buy; never mate the same defects together, that is, a male bird that is weak in the same sections as the female.

The greatest prevalent defect in the shape and profile of the best specimens exhibited nowadays, I find the fault mostly in the length of the back; too many of these birds are too short in this section, giving them too much of the Wyandotte type, and to overcome this defect we must use females with good long backs, and by practicing this very closely in your matings you will soon have the desired length in the back in your flock, which is so much needed in this breed and asked for by our true Rock standard.

Some of our best specimens nowadays lack purity of color in the hackle, I mean under-color mostly, for I have noticed some showing pure white color through the surface of some sections of the hackle. I consider this one of our serious defects, and when using a bird of this kind as a breeder you should exercise great care in selecting for his or her mating, specimens with very strong under-color in the hackle.

At different times I have had customers ask me this, saying they had some great shaped females with good size, but they had white, brown and black in the wings; and wanted to know how to mate birds of this kind for good results. My experience with birds of this kind is that you must have a male bird with an absolute solid buff wing, and you will very often get a good many clear wings on your chicks from this kind of a mating.

All birds have their defects; none as yet have been bred perfect, and I say to our Buff Rock breeders let's be careful in our matings of this breed. Do not use the defect in one bird to mate it with another of the same defect, and we will see if we cannot put the Buff Rocks on the top notch.

CHAPTER VII.

New Varieties of Plymouth Rocks

Silver Penciled, Partridge and Columbian Plymouth Rocks Admitted to the Standard. Non-Standard Varieties. History of the Origin and Development of Different Strains of These Varieties



AS a breed name for a distinctive American race of fowl, "Plymouth Rock" is one of the best that could have been selected by the shrewd New England breeders, who originated and developed the Barred Plymouth Rock over fifty years ago. The popularity of the barred variety ever since its first appearance in the showroom, in the early seventies up to the present time is due, to an appreciable degree, to those magic words "Plymouth Rock." Poultry breeders were not slow to recognize this, and sub-varieties soon began to appear after the Barred Plymouth Rocks became more widely known. The White and Buff have been with us for several decades; the Pea-combed variety appeared,

but soon disappeared, as the birthright of Plymouth Rock is the single comb and no other kind of head gear seemed appropriate. The Rose Combed Barred Plymouth Rock will meet the same fate as the Pea-combed one, or transform itself into a Wyandotte.

Of the new comers the Silver Penciled Plymouth Rock was the first to be admitted to the American Standard in January, 1907, at Auburn, N. Y. The Partridge and Columbian varieties were admitted to the Standard in August, 1910, at the St. Louis meeting of the American Poultry Association. The origin and history of these new varieties of the Plymouth Rock family will be found in the articles which follow.

Partridge Plymouth Rocks

How Different Strains Were Produced and Perfected Told by the Originators. How to Mate and Breed Exhibition Specimens

By J. H. DREVENSTEDT



WHEN a person invents something new which has a commercial value, other persons often appear to dispute the claim of the originator by advertising the fact that they, and not he, were the real discoverers of the new invention. When a firm selects a particularly euphonious name for a breakfast food or a brand of soup, other firms with easy consciences will imitate the name and attempt to draw the trade away from the original concern.

It is the same old story in the poultry business. Let some breeder after years of labor produce a new breed or variety and from the moment the latter becomes popular and a commercial proposition, other breeders will be found who will claim the credit for originating the same breed or variety. Old Wyandotte breeders have not forgotten the bitter controversies over the origin of Partridge Wyandottes, Buff Wyandottes, and even the origin of the White Wyandottes over twenty years ago, caused considerable discussion and no little ill-feeling at the time.

The Partridge Plymouth Rock is just now the subject of similar controversies, simply because one breeder claims to be THE originator of the variety, a claim other breeders deny. That one breeder may have originated a strain of Partridge Plymouth Rocks independently and without the knowledge of another breeder, who at the same time in another section of the country also produced a strain of the same variety, is perfectly natural and not improbable. Both breeders can lay claim to originating their

respective strains, but neither can justly claim to be the sole originator of the variety.

We will present to our readers the history of the origin of Partridge Plymouth Rocks as impartially and fairly as possible. In doing so we give the views of the breeders who were most closely identified with the origin and development of this new variety, believing such a presentation of facts from the different sources to be the most satisfactory means of arriving at correct conclusions as to the true origin of Partridge Plymouth Rocks.

GEO. H. BRACKENBURY'S HISTORY OF THE ORIGIN

The true origin of Partridge or Penciled Plymouth Rocks was given by Geo. H. Brackenbury of Auburn, N. Y., in the *American Fancier*, January 19, 1901, as follows:

"The next new variety of fowls to be introduced to public notice is the Penciled Plymouth Rock in two colors, the Silver Penciled and Partridge Penciled. E. O. Thiem started to make a Partridge Penciled some years ago, but I think discontinued breeding them, and later Dr. W. C. Crocker, of Foxboro, Mass., started both varieties, Silver and Partridge Penciled. We met Mr. Crocker at Boston one year ago and discovered the fact that he was originating some new thing with plumage like the Penciled Wyandotte, through his persistent inquiries as to our method of producing and breeding the pencilling and color in the Penciled Wyandottes. Then he inquired if we had any single combed sports. This confirmed our suspicions. Having a few single combs in each color, they were sent to Mr. Crocker to be mated to the birds he already had, and we understand he has made great improvement by using these single combed sports from both varieties of

Penciled Wyandottes, they having bred true to single comb, clean legs and nicely penciled plumage. 'But there are others' who have started and are breeding them, one of these being none other than an esteemed contributor to the *American Fancier*, Mr. John Lowe, of Swansea, Mass. Mr. Lowe is also originating a strain of each variety and hardly knows which he admires more, the Silver Penciled or Partridge Penciled. But this is not all. Mr. R. G. Buffinton, of Fall River, Mass., of whom it has been said, 'A breeder who breeds Buff-in-ton lots', is also originating the Partridge Penciled variety, and has recently informed me that he has just purchased all of Dr. N. B. Aldrich's Partridge Penciled Rocks, besides a lot of other birds of this variety from other breeders. So it would seem that Massachusetts is a veritable hotbed in the production of these new Penciled Rocks. The writer has three pullets and a cockerel or two of these single combed sports in the Partridge Penciled variety, which, if mated together, might produce single combed results only, and if we conclude to do this we will be 'in it' too, but we will do nothing of the sort. The two varieties of Penciled Wyandottes keep us busy thinking, and a rose comb suits our taste better than a single comb. There is a probability that 'there are others' in different parts of the world who are breeding these new Penciled Plymouth Rocks besides those mentioned above. These, however, are all that I have heard of thus far. I do not doubt but that these two varieties will be brought to a very high standard of perfection, or at least they will soon be brought up to an equality with the Partridge Cochins and Dark Brahma in color and markings, as the Partridge Cochins and Dark Brahma can be used in improving these new varieties. It will be noticed that I have used the name 'Partridge Penciled'. This name will still cleave to the two varieties in the same (Penciled) class. This, in all probability, is the name by which the Partridge or Golden Penciled Wyandotte will be called in the future."

Dr. W. C. Crocker, Foxboro, Mass., referred to by Mr. Brackenbury in the above, in the *Poultry Tribune* of October, 1904, gives the history of the origin of his Partridge Rocks as follows:

"The origin of the new varieties of poultry is a subject that is interesting a considerable portion of the poultry fraternity. As I have had considerable to do with these new varieties, I will give a short account of their history. My first experience in breeding thoroughbred poultry was back in the '70's, when I procured a setting of Partridge Cochins eggs, which I concluded, after reading up with considerable care what I could find about the various breeds would come the nearest to satisfying me. From my setting of eggs I was delighted by getting three very pretty chicks. These were carefully matured, and with one male and two females the next season I started to raise a good flock, and with very gratifying success. So I continued to inbreed for two or three years, when I was troubled by an increasing quantity of stunted and deformed specimens. All kinds of deformity developed—hump-back, crossbills, etc., etc. When my complaints reached my father he suggested that I should procure a male bird from another flock. This doubtless made a marked improvement. At this time I formed the conception of a fowl that would be my ideal of beauty and utility. It was one with the beautiful plumage of the Partridge Cochins, but without feathers on the shanks to be dragged in the mud and filth; and second, my ideal fowl must be an active, up-to-date, wide-awake American fowl, and not so lazy or stupid that it had to be put to bed on the roost every night. I see that breeders of the Cochins at this date don't attempt to have them roost at all.

"For some years I dropped the poultry subject, but in 1899 I again took up the matter, and this time determined to make what I wanted. For this purpose I procured a trio of Partridge Cochins, and after some comparison of notes with Mr. Richard Hooper, who was breeding Partridge Cochins and Brown Leghorn crosses, I went to the Boston Poultry Show for 1900, and while there was surprised to find that someone had anticipated my plan, for there was first shown by Messrs. Cornell and Brackenbury, the beautiful new variety that Mr. Brackenbury had bred, with the plumage of the Partridge Cochins. In talking to Mr. Brackenbury I revealed to him my plan for a Partridge Plymouth Rock, and later procured from him and from Mr. Cornell all the single combed sports from their Golden Penciled Wyandottes. These single combed sports were bred with a half-blood Partridge Cochins male that Mr. Brackenbury bred from his stock, and also with a cross-bred cockerel of Mr. Hooper's stock, bred three-fourths Partridge Cochins and one-fourth Brown Leghorn. From these matings I have bred some very fine specimens of a Partridge Plymouth Rock—an American type of fowl with the clear shanks and the beautiful Partridge Cochins plumage. I have also bred a strain in connection with Hooper from my trio of Partridge Cochins of 1900, and an

Indian Game cockerel bred by Mr. Charles D. Cotton. From this strain we now have some very fine specimens with very rich plumage. My strain of Partridge Plymouth Rocks are now bred closely as follows: Golden Penciled Hamburg, 1-16; Golden Laced Wyandotte, 2-16; Brown Leghorn 1-16; Partridge Cochins, 12-16."

Dr. Crocker also started producing Silver Penciled Plymouth Rocks in 1900, and concludes the above article by stating:

"As others have taken up the breeding of Partridge and Silver Plymouth Rocks, it is fair to state that this is the first and original strain bred in connection with the Cornell and Brackenbury stock, and I know of no strains to-day of either Partridge or Silver Plymouth Rocks that have not received help either directly or indirectly from the Cornell-Brackenbury stock."

S. F. NOFTZGER'S STRAIN

One of the pioneers in the Partridge Plymouth Rock fancy is S. F. Notzger of Indiana, who also claims to be the originator of the variety. Mr. Notzger's article stating how he came to originate his strain of Partridge Rocks, was written in 1909, and we quote from it as follows:

"For years I had bred Partridge Cochins, and on the first day of April, 1896, a Cochins hen hatched twelve chicks for me, four cockerels and eight pullets. These



In type, color and finely penciled feathers, the Partridge Plymouth Rock pullet illustrated above is one of the best specimens of this handsome new variety exhibited last season.

were wonderfully good in color and fine general purpose fowls, but were the scantily feathered American Cochins. One of these females, 'Georgine' laid 27 eggs in 27 consecutive days and as egg machines they had few equals.

"With the advent of the English Cochins something had to be done with these beautiful but scantily feathered fowls. Either they must be crossed with their English cousins, to improve the English color and make the American more massive, or must be sent to market. Securing fowls of the English type, I crossed them with my American Cochins and by careful selection succeeded in perfecting a winning

strain of Partridge Cochins. These fowls possessed the wonderful American color and the massive English feathering. But could they not be bred in opposite direction to produce a new breed to rival the best of fancy poultry? I decided to make the effort, and consequently eleven years since, began the long task of producing a new fowl with almost nothing of the ideal to begin with. All the time I continued the breeding of my 'first love'—Partridge Cochins—and only discontinued the breeding of them two years since, when I became convinced that the Partridge Plymouth Rock fowl possessed quality far beyond my fondest expectations, as rapid growers, great layers, and grand table fowls, together with color rivaling the Cochins.

"In the spring of 1898, 'Georgine', her full sister and two half sisters, were selected, because of their wonderful laying qualities and fine color, for the foundation of something new in fancy poultry. With each of these four specimens of the old American Partridge Cochin was mated an Indian Game cockerel. These cockerels were chosen from a large flock with bright yellow legs, thin high combs, eyes toward the bay as much as possible and bordering on Plymouth Rock shape.

"The result of the first cross was quite satisfactory in some respects, but simply discouraging in others. It was wonderful how the feathers disappeared from the shanks, some of the first cross being almost free from feathers on legs, but nearly everyone having the shape and high station of the Game. The males were almost black in hackle and saddle and the females were inclined to open lacing.

"How to overcome these conditions was the problem of the second year. After considering all possible crosses (realizing that a Standard breed was much more advisable) in order to get brighter color I decided to use Golden Wyandotte males, even in preference to Partridge Wyandotte males, because the latter were then so dark and devoid of bright color as to make them very undesirable to use with fowls already too black. Consequently from a neighboring breeder all the surplus cockerels were purchased and from these forty or fifty cockerels, eight large, strong fellows, mostly with single combs, were taken and mated with the very best females from my first cross. The majority of these were good in eyes, legs and top color; so rich improvement was expected the second year. They were mated principally in pairs and trios, but one or two of the most desirable were given an extra female. Some of these cockerels had fairly good combs, but most of them either had side sprigs or very irregularly serrated combs with too many serrations.

"The results of these matings were surprising, and very forcibly demonstrated to me that my new breed was going to be harder to perfect than was the Partridge Wyandotte, which I had helped others to produce a few years before. The cockerel line had been improved at the expense of the pullet penciling. For the first time clay breasts appeared in plenty among the females, but now fowls with even stubs were not much in the majority, and shape was greatly improved as well as male color, except in breast and body color, which was somewhat mottled in many males.

"Aside from color difficulties I found much trouble in selecting enough breeding fowls with fairly good combs for my third mating, for I had now fully determined to use only my own foundation stock. While some of the matings of the past year had resulted in fairly good colored birds of one sex, there were but few that improved color in both sexes (the first inclination to single mating), and strange as it may seem, they were the most troubled with stubs on shanks and toes. After much thought I concluded to use one of these single mating females in each mating the third year and to this decision owe much of my success, for although it increased stub trouble to some extent, yet the advancement in color was so marked in the offspring of these females that a majority of my future breeders were selected from them and I am fully convinced that their use was no mistake.

"The third year nine matings were made, but as all the progeny of these pens were sent to market we have to do with but six. It might be well to add that each subsequent year the matings that figured in the production of the Partridge Plymouth Rock fowl, had a tendency to grow less, showing conclusively the wisdom of carrying as many matings as possible at the early stages of a new breed of parti-colored fowls.

The progeny of the six fairly successful matings of 1900 showed better color in both sexes as a rule and some improvement in comb shape. Realizing the necessity of plenty of matings, in order to improve rapidly, ten pens were mated in 1901, using cock birds and hens for the first time. Special attention was given to shape matings with the result that little advancement was made in color, but improvement in shape was noticeable. Just previous to this time some correspondence had passed between a gentleman residing in Wisconsin and myself, relative to the purchase of stock, and being somewhat downcast by the loss of the male bird I sold my entire flock, including

old and young birds, together with best wishes to the Wisconsin party, intending that he should have full benefit of my five seasons of labor. The Wisconsin gentleman was compelled to discontinue his poultry, so I gathered together three of the best trios from some of my customers, who had depended upon me to assist them in mating, and in the early spring of 1904, again set sail on the Partridge Plymouth Rock sea, hoping eventually to land at 'Plymouth Rock' with undisputed quality.

"A few of the fowls produced in 1904, were quite satisfactory, although a new difficulty encountered was the scarcity of 'new blood', because the new start had to be made with so few matings. There were now some pretty good colored males and fair colored females. As a whole they were much better in Rock shape than previously.

"For 1905 six matings were made, using two of the cock birds, which had proved to be fine breeders, and four cockerels, two each from these two cock birds. With each male were used from two to four females. In one of these pens a single comb Partridge Wyandotte pullet was used, keeping her eggs separate and carefully marking all her chicks, as had been done with all others from the beginning. The result this year was that blood began to tell, for the males not only improved but there were actually some good Partridge colored females, while with the exception of the chicks from the Wyandotte sport, they were fairly good in shape. These youngsters were culled down very closely, although real culls were now in the minority, and every chick with stubs, other than good shape, or with a poor comb, was discarded. The chicks from the Wyandotte sport, together with their mother, were all disposed of, as most of them had dark legs and very few of them had even passable shape, so they were considered worthless as breeders.

"The year 1906 found me actually in a position to select my breeding fowls along Standard requirements. Eight quite respectable matings were made, and in several of the pens as many as five females were used—great progress in numbers. These were now chosen with shape, good color, and good bay eyes as a rule.

"From friends who were breeding Partridge Wyandottes I secured several single comb sports, mating them in different ways, with the result that everything was discarded, the chicks from but one female being other than culls, and I have felt like experimenting no more with Wyandotte sports. The chicks from my eight regular pens showed far more improvement than at any one previous year and were quite even in quality. Breeding fowls for my next year were selected from all the pens.

"For 1907 ten pens were mated, using sixty females, and the new breed made the greatest progress of its history. This was natural, however, as several of the matings were headed by males richer in color than the Wyandotte and the females were the equal of the Partridge Wyandotte in this respect, while in eyes and legs the new breed was better than either Partridge Cochins or Partridge Wyandottes."

J. A. HAGEMAN'S STRAIN

In writing of how he came to take up Partridge Plymouth Rocks, J. A. Hageman of Michigan tells about the origin of his own strain as follows:

"The attempt to create new breeds or varieties is laudable and should be encouraged. The blending of various bloods has given us many grand breeds and varieties. Indeed, aside from the Asiatics, the Houdans and a few of the Mediterraneans, all of our popular breeds and varieties are manufactured, and the patience that overcomes all difficulties is worthy of the highest praise and deserving of consistent emulation, while success, if worthy and enduring, means a fortune to the enterprising breeder.

"I am often asked why I breed Partridge Plymouth Rocks by those who know that for twenty years I successfully bred Pit Games. When a person enters the poultry business, or takes up a new breed, it is usually for the purpose of improving his financial condition or for pleasure, or, as in my case, with both in view.

"Six or seven years ago I saw a nice flock of Partridge Wyandottes. I became acquainted with the owner and had a pleasant heart-to-heart chicken talk with him. When I mentioned about their breeding a few single combs, he informed me where there was a choice lot of so-called Partridge Plymouth Rocks. I at once looked up the owner, a Mr. Randall, of Mt. Pleasant, Mich.

"On seeing Mr. Randall's birds I questioned their being anything but Partridge Wyandotte sports. I bought ten or twelve of them, selecting such as looked good to me, picking out Plymouth Rock type only and specimens of good size. That same season I found a man who had crossed Partridge Cochins with Brown Leghorns, namely, Mr. M. H. Bryan, of Brookfield, Mich., and another breeder who had crossed Partridge Cochins with Indian Games, the latter being Mr. F. H. Lynd, of Middleville, Mich. I obtained both males and females from these fanciers. I

found in both flocks some nicely Penciled Partridge colored birds and some that were entirely free from feathers on the legs and others with only a few stubs on legs. From among these birds I selected the nicely marked ones—those having or appreciating the Plymouth Rock type—and bred them, mating up three pens for my foundation stock. I culled closely each year until today I have them breeding Plymouth Rock type with Partridge Cochins and have given them the name of Partridge Plymouth Rocks.

"This, then, is the foundation of the 'Wolverine Strain' of bred-to-lay Partridge Plymouth Rocks. The Partridge color is very popular, and when put on the Plymouth Rocks with their handsome shape and their practical qualities of early and prolific laying, early maturing for broiler purposes, etc., we have a beautiful and practical fowl. My Partridge Rocks are equal to the Leghorns for early maturity and laying and they excel them in winter laying.

"The Partridge Plymouth Rocks have yellow legs and skin and their standard weights will make them popular as a market fowl. That they are fast becoming popular among the fanciers can readily be seen by the exhibits at our leading shows the last two seasons. At nearly every show they were represented and in many places the entries were double the number of some of the older varieties.

"A great deal more could well be said of the merits of the Partridge Plymouth Rocks, but I feel sure I have presented enough facts to prove my assertion that the Partridge Plymouth Rocks deserve a place in the front rank, either when viewed from a utility man's point of view or from the higher plane of the fancier. I find that the longer I breed them the more prominently their good qualities stand out, and I believe the time is not far distant when Partridge Plymouth Rocks 'will lead while others follow.'"

THE HILLCREST FARM STRAIN

William F. Fotterall, proprietor of Hillcrest Farm, Pennsylvania, has been one of the most enthusiastic, as well as one of the earliest breeders of Partridge Plymouth Rocks. Mr. Fotterall furnishes us with the following information relating to his strain:

"Though only admitted to the American Standard of Perfection August, 1910, the Partridge Plymouth is no new variety, having been originated some twelve years ago by Dr. Crocker, who was the first one to bring this beautiful breed before the public. There are others, who claim to be the originators of this variety, though it was so many years after this they took to exhibiting them that they would find it more than difficult to substantiate their claim. The first time that I saw these birds exhibited was in 1902, by Rowland G. Buffinton. At that time I had made several crosses with the idea of producing a Partridge Plymouth Rock. The first cross was a Brown Leghorn and a Partridge Cochins, and another cross was the Barred Rock and Partridge Cochins. The progeny of these crosses were mated together the next year and the following year a cock bird of the Brown Leghorn and the Partridge Cochins was used, which proved a great success. I then purchased some of the Rowland G. Buffinton stock and crossed with my own strain, and later purchased the best of the flock that was originated by F. A. Keller of Pigeon, Pa., and bred in with my flock, with the result that they produced the winning strain that has won the blue ribbons at the Madison Square Garden for the past five years, and no matter what others may write and advertise, Hillcrest Farm is the oldest breeder and exhibitor of Partridge Plymouth Rocks in America. As a table fowl and egg producer, they surpass all other varieties of Rocks, being excellent mothers, hardy and fast growers."

MATING AND BREEDING FOR EXHIBITION

Partridge Plymouth Rocks should be same as all other varieties of the Rock family in shape, size and weight. In color they are the same as Partridge Cochins, and in order to produce Standard colored exhibition males and females, they must be mated on similar lines. To secure the best results, double matings must be resorted to, although there are breeders of Partridge Cochins and also of Partridge Rocks who claim they can produce both exhibition cockerels and pullets from single matings, by using brighter colored males with rather light under color mated to Standard colored females.

DOUBLE MATING NECESSARY

With the Standard calling for males with solid black breasts and solid black striping in the hackle and saddle feathers, and for females with solid black striping in

hackle feathers, there is little hope of producing finely penciled females of the mahogany brown color, when Standard colored birds are mated together. The progeny will run too black and dark on the female side and produce what is called a cockerel breeding line.

We believe the Standard is at fault when it calls for solid black striping in the hackle of the females, as the finest penciled hens are those that have the penciling in the neck feathers. In mating up cockerel and pullet breeding pens the same rules can be followed as laid down for breeding Silver Penciled Plymouth Rocks and Wyandottes or Dark Brahmas. This dual mating was clearly explained by Newton Adams, one of America's most successful breeders of penciled varieties, in a letter published in American Poultry World, December, 1910, which we reprint as follows:

"Exhibition cockerels and pullets of the highest quality



PARTRIDGE PLYMOUTH ROCK COCKEREL.

The above illustration presents a good likeness of the Partridge Plymouth Rock cockerel, exhibited by F. N. Perkins at the Cleveland Show, 1911, where he was awarded first prize in a strong class. This bird has fine Rock type and is strong in color markings. He is a descendant from a blue ribbon sire and dam, who won their honors at the Chicago Show in 1909.

cannot be by a single mating. A male of exhibition points mated to dark females with well striped hackles—not so particular about penciling in body plumage—should produce show cockerels. Exhibition females mated with male out of same line are what I use to produce show pullets. I do not pay much attention to the undercolor of the male, but a whole lot to his breeding. I must know that his dam and his sire's dam are of the best possible. In show points he is not much of a looker as a rule, hackle and saddle badly broken, plenty of white on breast, thighs and fluff, which, of course, give him a light colored appearance. The striping of hackle and saddle should be well defined for cockerel breeders; hackle in females for pullet breeders is apt to show more or less penciling in it. You see it rather bucks nature to put penciling on all body feathers except neck, and it finally will push into hackles more or less."

The above clearly points out the road breeders must take to secure the proper color markings. By substituting for the "white" and "grayish white" of the Silver Penciled

varieties, "red", "reddish bay" and "mahogany brown", in the Partridge variety, the same course must be pursued, if Standard colored cockerels and pullets are desired.

COLOR PROBLEMS THAT CONFRONT BREEDERS

The American Standard of Perfection makes it absolutely impossible to breed Partridge Cochins or Partridge Rocks from single matings, by demanding solid striping in the hackles of females, something extremely rare and difficult to obtain in specimens that are finely penciled on back, wings, breast and body. It is unnatural and against nature's laws to demand such striping in the hackles of exhibition females. In cockerel breeding females an inch may be necessary, but these birds always run off in penciling and are much darker in color.

In males the Standard calls for solid black breasts, body and fluff, with solid black striping in neck, hackle and saddle hangers, with no section showing the slightest trace of penciling anywhere. Take two such extremes in color marking as the Standard Partridge Plymouth Rock, male and female, and stands to reason that single matings of such specimens will result in failure.

In England, where the Partridge color of the males is much lighter in hackle and saddle feathers, the latter being "orange or golden red" and the color of the female in back, wings, breast and body is described as "light brown", every feather to be distinctly penciled with a darker shade, it may be possible to breed some fairly good males and females from a single mating occasionally, but it will prove the exception and not the rule.

We are of the opinion that the breeders of Partridge Plymouth Rocks in this country are breeding their male lines too dark, losing that bright orange red color in the

neck, back and saddle, that set off the black striping so strikingly. Most of the finely striped males of to-day must be taken from the pens and examined at close range in order to see the color demarcation of the black stripe and the red lacing or edging. Using dark males of this kind also influences the color of the females injuriously, darkening the ground color to a chestnut, which does not contrast as well with the greenish black penciling as the lighter brown color. The plumage of birds is most satisfactory when it fills the eye at the first glance; it is departing from nature's laws when the beauty of plumage lies hidden or underneath and must be examined with microscopical lenses.

SHAPE AND SIZE AND COMB

In shape Partridge Plymouth Rocks have rounded into true Rock form in a comparatively short time. The exhibits at the Madison Square Garden in 1909 and 1910 demonstrated this fact most strikingly, the type of the first prize winners being very uniform. In size they also compared favorably with their older cousins, the Barred, Whites and Buffs. We also noticed much improvement in the combs, the latter being less beefy than formerly and, as a rule, smooth and evenly serrated. The females did not run quite as uniform in type as the males, there being still a number of them carrying the Wyandotte back and body.

We believe Partridge Plymouth Rocks are destined to become very popular with both fanciers and practical poultry raisers, as they are unusually attractive in appearance, large in size, and the hens have proved to be exceedingly prolific layers, while as table poultry the rich, yellow skin of the plump carcass makes them a first choice in many markets.

Silver Penciled Plymouth Rocks

Story of Their Origin. How to Mate and Breed Them to Obtain the Best Results. Rapid Growth, Large Size and Unusual Vigor Characteristics of This New Variety

By W. THEO. WITTMAN



WING to the fact that the writer was the first to prominently and persistently advertise and show Silver Penciled Plymouth Rocks, it has become the somewhat general impression that he was the originator of this variety. This is entirely wrong. When he first became interested there were already in the field no less than three claimants for this honor or distinction, and all the writer did, was to take

their stock as it was, accepting owner's descriptions of how the birds were bred.

Without a question, the idea of the origin of a Silver Penciled Plymouth Rock was brought about by the Brackenbury-Cornell efforts to make and perfect a Silver Penciled Wyandotte. But just who was the first to think of and work with this new Plymouth Rock, will probably always remain clouded and a matter of dispute.

A more or less extensive correspondence was engaged in by me with every one I could find in those early days who was breeding or was interested in this variety, including also many early breeders of the Silver Penciled Wyandottes. One strain, or perhaps the first so known, Silver Penciled Plymouth Rocks, were simply Singled Combed Silver Penciled Wyandottes. Some one took these, which were in reality no Rocks at all, and were surely in 'no sense "originated"—in spite of one man's claim—and began breeding sparsely feather-legged Dark Brahmas into them; I understand he thus bred Dark Brahmas in, until he had some birds at least, fourteen and fifteen-sixteenths Dark Brahma; or virtually, he had in

effect, finally, Dark Brahmas with single combs and clean legs.

A third party struck out boldly and made Silver Penciled Rocks along original lines without using a single drop of blood of the Single Comb Wyandottes. His crosses were Dark Brahmas, Silver Grey Dorkings, and Mottled Javas, and all Silver Rocks worthy of the name are today practically of this strain or blood, although some of the No. 2 family may, at various times, have been intermingled.

HOW THEY GREATLY IMPROVED

Two years were spent by me in acquiring a few birds and this knowledge, and in doing some desultory breeding. During this time I also spent considerable time and money in an effort to buy some good Single Comb Wyandottes as a foundation stock for my breeding, thinking that, as they antedated all others, they were probably much in advance in markings, at least. All of this was entirely lost effort. What good ones I could find were invariably too small (lack of size had always seemed characteristic of the Silver Penciled Wyandotte, and what few large ones, or approaching Rock size and shape, I got to see, were very poor in color or markings, and while I tried a few out in the breeding pens, I eventually discarded all of them and all of their blood.

When taking up Silver Penciled Plymouth Rocks in earnest, the first thing I did was to double mate them; this was mostly pure guess work. As far as I could learn, there was no such breeding back of any single bird I had,



SILVER PENCILED PLYMOUTH ROCKS.

The male bird illustrated above shows good Plymouth Rock type except in comb, which is too large and is not evenly serrated. The striping in hackle and saddle feathers, silvery back, wind-bow and wing-bay, and wing-bar are distinctly shown and convey a very good idea of the color markings of a Silver Penciled Plymouth Rock male. The picture of the female was made from a photograph of a noted Madison Square winner. In color markings this hen is probably the best ever exhibited, the ground color being a grayish white, the feathers being distinctly penciled and conforming very closely to the Standard requirement in this respect.

but trap-nesting every egg and a careful study and memoranda in writing of each and every living chick, not only during growth, but at maturity, helped me to find my way for the second season's matings. I only had three years of such work with them, but I can say without boasting, at the end of those three years, or generations, you would hardly have known them for the same variety. They began to run very uniform and even, and such Silver Penciled Plymouth Rocks began to attract attention and were worthy of it. The third year's breeding gave me about forty pullets and ten cockerels, every one of which were either a high-class show bird or had indications of a likely breeder; in fact were such a high-class lot of birds that an experienced poultryman, manager of a large farm, fell in love with them and bought the entire flock. Every one of these birds had size, evenness of color and markings;

perfectly clean in legs threw every chick heavily feathered. If there was a feathered chick though in any one lot it was usually a female. The Brahma comb, or a modification of it, also stuck longest to the females. Happily all these things rarely or never show up in the breeding nowadays, save that a per cent. of the females still come with dusky yellow legs, but this too is only a matter of a few more generations before it will disappear.

And at this point as I look back, I cannot help but wonder where and what Silver Plymouth Rocks would be today if double mating had not been resorted to.

CHARACTERISTICS

They had one fault (?)—they ran too large in size; pullets weighing eight pounds and cockerels weighing twelve made them away beyond or above Standard Plymouth Rock



MALE FEATHERS FROM SILVER PENCILED PLYMOUTH ROCKS.

PLATE A.—Reproduced from a photograph of feathers plucked from the neck, back, breast and wings of a Silver Penciled Plymouth Rock cockerel. These feathers are as near to the Standard ideal in color markings as it is possible to find them on living specimens. The white lacing of the hackle and saddle feathers is even, clean and sharply defined, the centers or stripings being solid black, as are the breast and wing-bar feathers. The illustration obviously fails to show the greenish black luster these feathers possess.

most of them had good Plymouth Rock type, and above everything else, had size and health and vigor stamped all over them.

EVERY HEN WAS TRAP-NESTED

As every hen was carefully trap-nested, and every chick carefully accounted for, it was very interesting to note and trace how the ancestral make-up cropped out and how some undesirable peculiarities of the parent stock readily disappeared and others persistently hung on. For instance, only in the first year with me were there any five-toed chicks, and then only three. On the other hand, the Dorking comb and type stuck to some males year after year and even still occasionally and unmistakably crop out. Differently, too, from what might be expected, such males were sure to have deep yellow legs and usually a grand top-color, but there were never any females like this at that time. There was one exception, a grand silver pullet with deep yellow legs, and I banked much on her. She was large, and always the picture of health, but in the two years she lived she never laid an egg. One hen

weight. This was no doubt primarily due to their ancestral make-up, and perhaps also to the recent and happy crossing and recrossings of the large and strong growing breeds in their make-up and finally to their unusual and astonishingly large capacity to assimilate food and make rapid growth thereon. The latter was their one strong and predominating characteristic. Never have I seen chicks of any other one variety grow so fast and so persistently to big weights. How much of this was due also to the fact that while with me not one of them ever slept behind glass or curtain, even in winter and summer, I cannot tell, for they were all kept or treated in this way.

As layers I found them just about the same as the other varieties of Rocks or other breeds somewhat similar in size and general make-up or type. I did find a few hens superlative layers, and no doubt these could have been made to perpetuate their kind. They made better winter layers than summer layers; were moderately inclined to broodiness and showed the same tendency common to other Rocks—to become too fat after their pullet year.

HOW TO BREED OR MATE

The largest and leading breeder of this variety claims to follow the single mating plan, and I want to say, he is producing and showing some markedly beautiful birds, and just how they are bred is his own affair, of course, but I consider it a mistake.

Carefully breeding an ideal show male to his daughter and grand-daughter, or breeding on to a typically colored and penciled show female, her own son, and sons of successive generations, carefully selected and bred in line, will clearly and strongly demonstrate that double matings are desirable and along the lines of least resistance.

The females of the former mating will be inclined to be stippled instead of penciled, and oddly enough, often come with white on the breast. The males of the latter will come, some of them at least, or the desirable ones, showing some penciling in the first chick feathers, and in adult plumage have considerable white ticking in breast and considerable white in body and fluff, preferably in the form approaching pencilings.

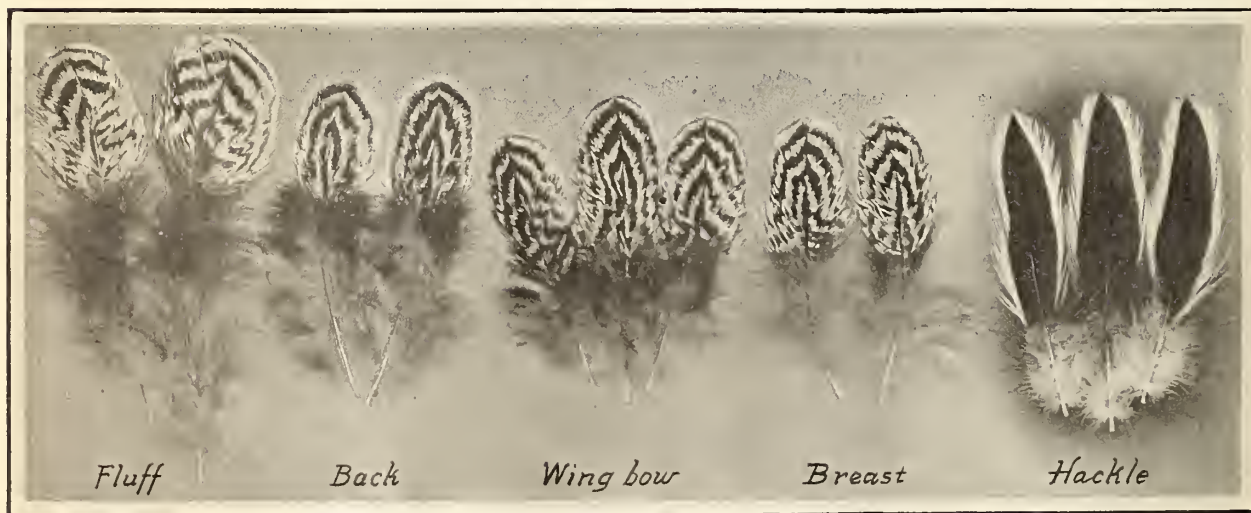
IDEAL SPECIMENS

A well colored and marked Silver Penciled Plymouth Rock is a wonderfully beautiful bird, and the time is likely coming when they will take their place as one of the popular and leading varieties. They have attained a degree of perfection rarely found in a new variety of poultry, in fact, they will breed just as nearly perfect or ideal as any variety of Rocks and excell many varieties of other breeds much older. Their economic value and their exceeding beauty warrant the first assertion. Already they excel the Dark Brahma or Silver Penciled Wyandotte of

today in color, and with a Standard description and a Standard illustration, they will eventually be almost ideally beautiful and perfect, and the same be better known and acknowledged.

Said description aims for a silvery top color. Silver is what the bird is to be in male and female, and while the Silver Penciled Plymouth Rock Club of America voted as a unit for the above when formulating the proposed Standard description, it is a pity they could not agree in asking that the name of the variety be shortened to simply Silver Plymouth Rocks, for that is what they are and are to be in fact and in purpose. Silver Penciled Plymouth Rocks, either male or female, is not anything like "ideal" unless the top color is of a true silvery shade, and too much stress or emphasis cannot be laid upon this. Any red, or brown, or brass in males, or any brown or chocolate in females, can not and should not be tolerated; or in shape and size, any tendency to the Wyandotte. The silver color too is the only color that wears, and when coupled in the male, with a lustrous, deep green black in hackle and saddle hackle, wingbows and tail, and in female with broad black stripe in hackle and three sharply defined black pencilings in back, breast, and body feathers, gives us the bright and snappy silver effect that must ever be the unique and distinctive individuality of this variety. Part of this only was adopted, and thus it unfortunately happens that Silver Penciled Plymouth Rocks are already ahead of a Standard at this writing still unpublished.

Note:—Silver Penciled Plymouth Rocks were admitted to the Standard at the adjourned meeting of the American Poultry Association held at Auburn, N. Y., January 10th, 1907.



FEMALE FEATHERS FROM SILVER PENCILED PLYMOUTH ROCKS.

PLATE B.—Reproduced from photographs of feathers plucked from a noted Silver Penciled Plymouth Rock hen. The hackle feathers conform to the Standard description in color markings, although in the finest penciled hens, the black striping of these hackle feathers will be found more or less penciled. The breast, fluff, wing and back feathers indicate strong color contrasts, but the pencilings should be more regular and more sharply defined.

Columbian Plymouth Rocks

Origin of Columbian Plymouth Rocks. The Development of the Different Strains. Ideal Marked Feathers. Shape and Size. Problems That Confront Breeders

By F. L. PLATT



THE Columbian Plymouth Rock was fashioned in the first decade of the twentieth century. It is a culmination of the feather markings of the Light Brahma, and the type, the characteristics and the utility of the Plymouth Rock. As a variety of the Plymouth Rock fowl, whose inheritance is the intrinsic value of both the Brahma and Rock, this new race is worthy of its classification with those other varieties of the breed of proven value as market-poultry and as layers. Like the Barred and White Plymouth Rock, the Columbians are good layers of large, brown eggs, and as more of this variety are bred, affording a greater field for selection, their egg production will be naturally increased. The birds dress well for the table or for the poultry stalls of the market place, showing a well meated, yellow skinned carcass, and, as the underplumage of the fowl is white, the flesh is free from objectionable, dark pin-feathers.

ORIGIN OF THE COLUMBIAN PLYMOUTH ROCK

It was on a visit to a yard of White Rocks at Mechanicsburg, Ohio, late in the summer of 1905, that I first learned of the creation of this new variety. F. M. Clemens, of Mechanicsburg, in the spring of 1902, had made his first crosses, "with the present Columbian Rock in view." The variety was first shown at the Jamestown Exposition in 1907. It was admitted to the Standard of Perfection at the meeting of the American Poultry Association in August, 1910. In an article written several years ago, Mr. Clemens says:

"As to origin, I used Bradley Bros.' Barred Rock and Philander Williams' Light Brahma blood as well as single-combed sports of Columbian Wyandotte origin. The Barred Rock blood has added largely to true Rock character, and the Light Brahma blood has given size as well as color, while the lately infused Columbian Wyandotte blood largely aided in stamping many desired characteristics."

In reply to my letter of Feb. 24th, 1911, in which I asked, "What breeds or varieties were used to produce Columbian Rocks", Mr. Clemens wrote:

"Some strains are of Columbian Wyandotte extraction solely and are light boned and small. I prefer the stock I have secured by use of Brahma and Rock blood largely."

Replying to my question, "Where and when did Columbian Plymouth Rocks originate?" Mr. Clemens writes:

"Others in the east, especially George Sweet of New York State, worked on them about the same time that I did, so I do not claim to be the sole originator."

Writing of the early work in producing his strain of Columbian Rocks, George H. Sweet says:

"When I decided to try and produce a Columbian Plymouth Rock, my first thought was that I must get a bird that had the size and shape of the Plymouth Rocks as required by the Standard of Perfection, and then, to attain as nearly as possible the desired coloring of the good and much desired Light Brahma. My first cross was as follows: In order to get the proper Rock type I secured some of the best White Rock hens possible and with these hens I crossed a large boned, leggy, Rock shaped, Columbian Wyandotte cockerel that had plenty of Rock style and was rather dark in hackle, wing and tail coloring. The result of this mating was very satisfactory, with

the exception that when matured they were deficient in coloring in the section mentioned above. I selected the best specimens from these, and after sending to the best breeders of Columbian Wyandottes for females of their varieties that had single combs and as much Rock shape as possible, I selected the birds obtained from these breeders, those that I thought would produce the best results. From this mating I secured some very fine specimens."

The Brahma being a feathered legged fowl, has been crossed reluctantly and cautiously by some Columbian Rock as well as some Columbian Wyandotte breeders. Both varieties, however, have been largely dependant on the Brahma for their strength of color and clearness of feather markings. Mr. Sweet in making his strain of Columbian Rocks, sought type from the White Rock, and instead of going directly to the Brahma for the rest, sought the progress of the Columbian Wyandotte, whose breeders, at that time, were constantly reinforcing their flocks with Brahma blood.

OTHER STRAINS OF COLUMBIAN ROCKS

Since the fashioning of the Clemens and Sweet strains, other flocks of the variety have been built from similar crosses, yet often these two original strains have been the source for top-crosses, sooner or later. However, in New England, there are distinct flocks of Columbian Rocks that came from straight crosses of White Rocks and Light Brahmas. It was the short route.

In the days when Standardbred poultry was securing a foothold in America, there were many enthusiastic poultrymen in New England. The Light Brahma was a favorite with them, and in this day, through the famous soft roaster or capon district down the South Shore in Massachusetts, the Light Brahma is the prime favorite. So, of all the world, New England, which has been called the cradle of the American fancy, is the home of the Light Brahma. It was natural, therefore, for New England breeders, after the advent of the Brahma markings on a Wyandotte fowl, to take the suggestion and combine the Brahma and the Rock. New Englanders admired the Light Brahma for the beauty of its plumage, and placed no breed ahead of their own creations, the Barred and White Rocks, as general purpose fowl.

One of the New England breeders of Columbian Rocks, Howard M. Monroe, of Massachusetts, writes me about the origin of the variety, as follows:

"I believe that no one man can be said to have originated the Columbian Rocks. I know of several breeders who originated their own strains at about 1906-7. In my own case the first cross was made in 1905. I crossed a Light Brahma male on White Plymouth Rock females; a Columbian Wyandotte male was mated to the females of this cross. I have introduced more Brahma blood through Light Brahma females. In some strains, Barred Rock blood has been introduced into the make-up of the Columbian Rocks."

NAMING THE NEW VARIETY

When Mr. Clemens first brought out his strain he called his fowl "Light Plymouth Rock," taking the variety name from the Light Brahma and combining it with the breed name, "Plymouth Rock." Others interested in the fowl preferred the variety to be named "Columbian," and Mr. Clemens, realizing that the name he had selected, would be confused with "White Plymouth Rock," owing to the

similarity of sound, agreed without opposition, to the name, "Columbian Plymouth Rock."

WHY THE COLUMBIAN ROCKS WERE MADE

Compared with the English, the American breeders are not great mixers of races and blenders of colors; they do



COLUMBIAN PLYMOUTH ROCK COCKEREL.

An unusually strong bird in color markings, the striping of the hackle feathers in the neck being remarkably sharp and well defined with lacing of the tail coverts is ideal. But in shape the camera failed to do this bird justice, showing too long and thin a neck and narrow breast and body, the latter lacking depth and fullness; back rather short, white tail lacks fullness.

not seek the ornamental; but, from time to time, combining usefulness and beauty, they build a race of fowl, and set about to breed it for greater utility, and with beauty of feather and excellence of form. F. M. Clemens has sound reason for fashioning his strain of Columbian Plymouth Rocks. Writing on this subject, he says:

"To my eye, the most beautiful fowl of all the Standard list was always the grand old Light Brahma. At the same time, the great size and consequent slow growth, the feathered shanks, and rather sluggish disposition, have gradually set this splendid variety back from the conspicuous position it once held; while the general-purpose breeds have come strongly to the front, and among them none more strongly than the Plymouth Rock. For years it has seemed to me that a breed that would combine the splendid all-purpose qualities of the Plymouth Rock, with the unapproached beauty of plumage of the Light Brahma, must of necessity hold, in time, a position at the very front. With this ideal in view, I have been working on my strain of Columbian Plymouth Rocks, and the longer I breed them the better satisfied do I become that the future has much in store for this beautiful and useful fowl. Especially have I been encouraged by numerous letters from Light Brahma men expressing the greatest interest, and I could last year have sold ten settings of eggs to one I had to spare, with the greatest ease."

George H. Sweet on the future and worth of the variety, as he judged it by the strain of his marking, says:

"It is my impression that the future for the Columbian

Rock is a very promising one, as the beginner as well as the veteran breeder is impressed with the beautiful coloring, which should be precisely that of the Light Brahma. The many good qualities which are brought together in this new variety, will make them command a favorable place in the yards of the large breeder as well as the beginner and those who wish to adorn the surroundings of a pretty home, by something in the poultry line that is useful as well as ornamental. The term useful, is well defined in this variety, as they have the unsurpassed market qualities in shape of body and size. They have no feathers on the shanks or toes to disfigure one of the most attractive features required to bring top prices, and that is the rich yellow legs and feet. As for winter layers, they have outdone anything that I have bred for the past 30 years."

Speaking of the birds in New England, of which his own flock is a part, Howard M. Monroe says:

"I have been breeding poultry for over twenty years and have had nearly all the popular breeds, but the Columbian Rocks for practical, every day business qualities surpass any breed I ever handled. When we have attained the present Standard Light Brahma color and Plymouth Rock type, I think we can truly say we have a fowl that combines beauty and utility so well that it will become the most widely bred Rock variety."

DEVELOPMENT OF THE COLUMBIAN ROCK

What I shall say in this paragraph on progress making with the variety is not new; I have said it before. But, before taking up the subject of feather markings and plumage color, I want to re-iterate it. I want to say, with words as hard as cannon balls, that we must have a Plymouth Rock first. As foundation stock the new breeder should be satisfied with nothing short of Plymouth Rocks; he should procure a foundation of size, and shape, and breed characteristics even to the strong skull of the Plymouth Rock head. Such a foundation, and no other, is strong enough to bear the superstructure of color that every breeder hopes to build. With a true Rock founda-



COLUMBIAN PLYMOUTH ROCK HEN.

The above picture gives a very fair idea of a Columbian Plymouth Rock female, the head points being very good; neck lacks a little in fullness at the juncture with back; the latter is very close to the modern back line of the Plymouth Rock; breast and body show good Rock type. Color markings of neck hackle and tail coverts strong and well defined.

tion, the breeder will have a base strong enough to bear the breeding of a hundred years for color of plumage and feather markings. With a Plymouth Rock first, the Columbian breeder will have a flock of fowl that will vie

in weight, vigor and productiveness with the Barred and White varieties.

With this consideration of the factors that make the Columbians a member of the Rock family, let us now consider the beauty of the Columbian plumage, which gives to the fowl its distinctiveness as a variety; for it is the degree of excellence of a bird's feathers that is a great quality determining factor in the showroom.

The IDEAL COLOR OF COLUMBIAN ROCKS

The study of feather markings requires consideration of detail. In no line of poultry breeding is there a louder call for an appreciation of fine distinctions. With the variety established and the feather markings intact, the changes that fanciers work from year to year seem incomprehensible to the tyro, but these apparent trifles are progressive steps toward ultimate perfection.

It is a point in psychology that a man can only see what he knows; the beginner sees the black striped neck and black tail of the bird; I see that and infinitely more. I see the indefinite white lacing that borders the black stripe in the hackle, and the purple bars that mar the black coverts of the tail. To eradicate these defects the breeder must stop breeding them, but to do this he must first rea-



PLATE I.—MALE HACKLE FEATHERS.

lize that they exist. But, let us study the ideal rather than the defective; let us set the Standard for feather markings here, and then you can measure up to it.

The plates of feathers that illustrate this article were made from feathers that I plucked from Columbian Plymouth Rock males and females. Most of them are from winners at Philadelphia and Madison Square Garden, New York. I am sure that the perfection of these feathers comes as a surprise to breeders of Columbian Wyandottes and Light Brahmas, for I am doubtful if they thought that this newest color-transplantation to the Rock was so great a success. The photographs of the feathers were not retouched by an artist, and the reproductions are of the feathers just as I found them.

Plate I. shows three feathers plucked from the hackle of a Columbian Rock cockerel. I want to call attention to the solid black stripes purely laced with white. Unusual as it is, at the tip end of the feathers, the black stripes narrow and taper to a point near the extremity of the feathers, and there is not an indefinite or smoky appearance. In the making it would seem that even the black color pigment had forsaken the tip of the quill itself. Further, the black of the stripe is positive; it is neither brownish or grayish black, and the white border is pure

white not touched with a creamy or brassy color. This is all as it should be. However, unlike perfection itself, well up past the middle, the stripes of the hackle feathers break and run into white. Strength and depth of the stripe is desirable, yet it should not be secured at the ex-



PLATE II.—FEMALE HACKLE FEATHERS.

pense of heavy colored "smutty" end. The hackle plumage of cocks will be found to be lighter than that of cockerels.

Plate II. is a reproduction of three female hackle feathers. What I have said of Plate I. applies equally to these feathers. Again, at their tips the black quill turns, as if by magic, into white. I have seen Columbian Rock female-hackle feathers that had a narrower edging of white, but this narrow lacing gives a very dark appearance to the hackle, and at a distance the necks of a flock of such females look to be almost black. The stronger white lacing is more apparent to visitors at a breeder's yards, and the stronger contrast is likewise more striking in the showroom.

The lacing of the hackle should extend well around the neck, and on the throat feathers of both male and female. The first two feathers in Plate III. were plucked from the throat of a male and the other three feathers from the throat of a female. The white lacing and the



PLATE III.—MALE AND FEMALE THROAT FEATHERS.

outline of the black striping of the male feathers are excellent, but the strip lacks strength of color in comparison with the intense black of the female feathers. The quill of the male feathers is also broken black and white. These male feathers are the best that I have been able to find, and I mention their shortcomings by way of competitive comparison with the ideal female plumage.

I want to take up the wing section next. It follows according to the management of the A. P. A. score card, but in judging most varieties I have preferred handling the sections in the following order: neck, back, tail and

then the wing; opening the wings before turning the bird over for its breast and body color. I break this rule when handling Columbian Rocks and similar colored varieties. A pure white surface color on the back is essential, but that can be seen at a glance, and the Standard gives us leaway on the color of the under plumage of the back,



PLATE IV.—MALE WING PRIMARY AND SECONDARY.

breast and body; it may be "white, bluish white or slate;" and so I open the wings directly; for the wings tell the plot of the story.

In Plate IV, are shown two main wing feathers from a Columbian Plymouth Rock male. The feather on the left is a primary and the one on the right a secondary feather. The white edging on these feathers is about ideal. The white at the base of the primary, while a defect, is not seen in handling a wing, as the primaries are covered at the base by primary coverts.

Plate V, illustrates a secondary and primary from the wing of the first Columbian Plymouth Rock pullet at Madison Square Garden, New York, 1910-'11. (See illustration of pullet with her wing spread). The secondary is most remarkable in that it is laced on the outer edge of the black section with a band of white. The right-hand portion of the right-hand web is pure white. In Plate V, it is the opposite as the feathers were plucked from a right-hand wing, while the pullet feathers were plucked from a left-hand wing. The white portion of the secondaries should be sufficient to secure a white wing bay, that is: it should be sufficient to make the triangular section of the wing formed by the exposed portion of the secondaries when folded, pure white. The blacker primaries fold underneath the secondaries, whose wide white edging leaves the surface color of the bird pure white except for the laced hackle and black tail covered with laced coverts.

In Plate VI, are illustrated three of the laced coverts that

deck the tail of the Columbian Rock male. These feathers have a lustrous, greenish black sheen, and, in the case of these ideal specimens, are nicely laced clear around with a distinct white edging. With this double coloring so artistically combined, these coverts harmonize the white body plumage with the deep black of the main tail feathers. Their perfection adds finish to the bird. Their under-color is white.

The female tail coverts do not have the lustre of the male feathers. While the breeder of the Light Brahma color combination aimed to dress the male and female alike, it would seem that nature intended that the male's work should be external, that he should strut and crow and be proud, while the female's work should be internal, and that she, in her unostentatious way should, by an exceedingly delicate process of digestion and secretion, convert food into eggs for human consumption. Accordingly, even in the Columbian Rock, where the male and female have the same feather markings, the male has the more lustrous plumage.

In Plate VII, we have a picture of three model female tail coverts. The feathers lacked the lustre of the male coverts, as was natural, but for a pure white feather with a solid black heart, I have not yet seen the equal in this new variety. Even the quills are black to the base.

PRODUCING IDEAL PLUMAGE

"How can I produce such perfection of feathering?" is



PLATE V.—FEMALE WING PRIMARY AND SECONDARY.

the most natural question in the world for the ambitious and progressive breeder to ask. The feathers that are illustrated here are not merely from one male and one female. They are from the most perfect sections that I could find on many birds. The breeder's task is to combine

the best sections of the birds that he has or can purchase, with the thought that from the culmination, a composite bird will ultimately come forth, and he will be the model, the sensation of the year. After visiting the yards of S. W. Bradley, Conn., in December, 1910, I wrote:

red eye or a neat five pointed comb are nice adjuncts, but after all these are only head appendages; the head itself is of fundamental consideration. If there are any shape defects in the male try and overcome them by mating to him females that are particularly strong in his "off" section, and vice versa.

MATING TO PRODUCE THE BEST RESULTS

From Dr. E. B. Kaple, New York State, writing on the Columbian Plymouth Rock, in *Reliable Poultry Journal*, I quote the following on the mating and breeding of this variety:

"The main factors to be considered are type and size. Above all else I would advise the selection of a male of Rock type and size. In the choosing of the male, look for sectional coloring as strong as it is possible to find. In selecting the female members of the breeding pen, let size and type again influence you most strongly. The female is the strong factor in influencing size in the progeny. A yellow beak is more common in females, so is good surface color, but weakness in the wing and tail sections is more prevalent than in the males. Many breeders contend that to get strong sectional coloring without more or less color in the back surface, is impossible, yet I have seen during this past year females with clean, white surface with the strongest color in hackle, wing and tail, and I believe such birds mated to a male of strong section color and dark undercolor are the most valuable breeders. It should be unnecessary to dwell on the importance of perfect health and vigor of all birds to be used in the breeding pens."

IN CONCLUSION

The Columbian Plymouth Rock represents an epoch making advance in Standardbred poultry. The inherited merit of the variety, no one can question; the intrinsic worth of the variety has been exemplified to all intimate



PLATE VI.—MALE TAIL COVERTS.

"One cockerel I noted especially is of the ideal shape; another has a perfect wing and hackle; another has a pure white top color. If he can combine the good qualities of these birds into one, that one would be well nigh perfection. Can he do it? The task is in good hands. When it is accomplished, by him and other breeders, the Columbian Plymouth Rock will be a fowl of unrivaled beauty and yearly it will grow in favor."

HOW THE SHAPE WAS SECURED AND HOW TO PRODUCE IT

What has been said in other chapters on the production of Plymouth Rock type, applies with equal value to the Columbian variety. Fortunately the Columbian Rock inherited the good shape of the White variety, and the Brahma type did not detract in any way. Unlike the Columbian Wyandotte, the concave back of the Brahma-cross birds did not need to be refashioned along convex lines. The pea comb of the Brahma results occasionally because of atavism, in side sprigs on the single comb of the Columbian Plymouth Rock, and again stubs on the shanks of the Rocks show a reversion in breed characteristics to the feathered shanks of the Brahma.

In selecting the breeding birds choose fowl with Rock characteristics and look well to the head. As the rounded skull of the Wyandotte bespeaks roundness of body contour, so does the strong skull of the Rock bespeak that type and those characteristics that have made the Plymouth Rock a favorite with the farmer and market man. A



PLATE VII.—FEMALE TAIL COVERTS.

with progress making in poultry culture. No longer is the blood of other races needed to reinforce it; to add to its bone, or strengthen its color. As the Columbian Plymouth Rock it is a new departure, and further improvement in the fowl will come as a result of selective breeding, with the breeder's ambition set upon the ultimate goal of "more and better poultry."



FIRST PRIZE PEN COLUMBIAN PLYMOUTH ROCKS
MADISON SQUARE GARDEN, N.Y. 1909-10 AND PHILADELPHIA, DEC. 1909
OWNED AND BRED BY SIDNEY C. ALLEN, ORCHARD PARK, N.Y.

4. Few varieties of recent origin give such promise of becoming popular as the new member of the Plymouth Rock family, the Columbian variety. The elegant contrast in color and their handsome markings must appeal to those who admire the beautiful. Sidney C. Allen's first prize winners shown in the above illustration, picture the unusual beauty and the perfection that has been attained in producing the desired shape and color of this variety.

Non-Standard Varieties

Golden Barred, Quail, Black, and Rose Combed Barred Plymouth Rocks



Of the new candidates for popular favor that claim the breed name of Plymouth Rocks, the Black and the Rose Combed Barred varieties will fail to "make good" at least in this country. In England Black Plymouth Rocks have been bred and exhibited for the past twenty or more years, but not to any large extent. In the United States a Black Plymouth Rock would be a "ringer" for a Black Java and fail of recognition on that account alone.

ROSE COMBED BARRED ROCKS

D. E. Hale, associate editor of the *Reliable Poultry Journal*, in the July, 1909, issue of the latter, writes of Rose Combed Barred Rocks as follows:

"We have had requests for information in regard to this variety of Plymouth Rocks. Several different times Rose and Pea Comb Barred Rocks have been introduced to the public, but they do not seem to take very well. In 1888, at a meeting of the A. P. A., held in Indianapolis, the Pea Comb Barred Rocks were admitted to the Standard, but were soon withdrawn. When one thinks of the Barred Rocks, the ever popular single comb comes to mind and the rose comb does not stand much chance of winning favor. Probably there are some Rose Comb Barred Rocks being bred today, but we do not believe they will ever be popular."

QUAIL PLYMOUTH ROCKS

A new and comparatively unknown variety of the Plymouth Rock family is the Quail Plymouth Rock. It has been exhibited at local shows and fairs along the Hudson valley, New York, and was originated in the latter locality by J. Adams, who gives the following description of its origin:

"I have always been a fancier of fine poultry. In 1890 I had the pleasure of taking a trip to Italy, and while walking through a small village where I noticed that each family had a dozen or more chickens of various colors. I saw one flock of very fancy colored birds, such as I had never seen before, I was so much impressed with their appearance that in 1891, when I returned to this country, I decided to try to perfect a breed of fowls that would resemble the birds I saw in Italy.

"I started by making crosses of Barred Rocks, Light Brahmas, Javas and Brown Leghorns. After I had crossed these breeds for two years, I picked out the ones which were the nearest to my ideal color and bred them together. With their offspring I crossed some Buff Plymouth Rocks and Single Comb Rhode Island Reds. I used these crosses for several years. Until about three years ago I raised over four hundred. The birds were then coming quite true to type and the next year I selected two hundred and fifty, getting some fine pens from among them that were quite true to type.

"These fowls quite early assumed the type of the Plymouth Rock, having Plymouth Rock weight and shape and fine yellow legs. They not only mature early, but are rapid layers and better layers than any Plymouth Rocks I have ever owned. The eggs are large and brown shelled. The skin of this variety is rich yellow, so that they make good table fowl.

"These chickens when first hatched have a rich red color and resemble a quail, hence I have named them the Quail Plymouth Rocks.

"The plumage of the female is very attractive, the breast being on the penciled or Partridge order, with the exception of the ground color, which is a beautiful buff with a dark brown penciling conforming to the shape of the feather. The birds are well penciled with the same color on the body and fluff, even down on the thighs. The back color is of the Partridge or penciled type, but considerably darker than the breast, body and wing bows. The wing bows are penciled the same as the breast, and the hackle shows a tendency that way. The color is a beautiful buff, slightly sprinkled, or one might say, very slightly penciled with brown.

"The male bird, while somewhat resembling the Partridge or penciled varieties of other breeds, shows more red in its plumage. The hackle is a bright brilliant red, showing a tendency to a black stripe running down the center of each feather, although it does not show much on the surface. The saddle feathers are black, having red centers, being somewhat open and we might say laced like the Golden Wyandotte. The breast feathers are red with a dark stripe down the center, which gives each feather a laced appearance. Body and fluff are black, peppered with red.

"I have worked on this variety for over eight years and I have always practiced single mating and found it satisfactory. This variety was first shown to the public in 1908, when I made an exhibition at the Ontario Country Fair and at the Hudson Valley Poultry Show at Poughkeepsie, N. Y."

GOLDEN BARRED PLYMOUTH ROCKS

We first saw Golden Barred Plymouth Rocks at Hillcrest Farm, Pennsylvania, several years ago, so requested the proprietor, William F. Fotherall, to furnish us with a history of this new variety. Mr. Fotherall complied as follows:

"How I came to discover this new variety was quite a streak of luck on my part, and it happened about seven years ago, on one of my farms. I had some Buff Rock females and some pullet bred Barred Rock cockerels, and to my surprise I found myself the possessor of a new variety, without any premeditated thought on my part. In the course of three years they were coming along nicely, improving year after year, and it was my desire to improve them, so I set to work and tried to assist nature. I infused some Rhode Island Red blood, with an idea of intensifying the marking in the female, but this proved a sad mistake and I was compelled to make a fresh start. In 1896, I sent a trio of Partridge Rocks to a Mr. A. S. Worthington of Sicamous, B. C., Canada, and during our correspondence he said something about Golden Barred Rocks and sent me some feathers; they came from a male bird and were identical with mine; consequently I inquired how he came into possession of the golden feathers and from whom he got them. He gave me the name of Mr. J. H. Lewis & Sons, then residing in West Virginia, but now living at Cadiz, Ohio, from whom I purchased a pen. At that time Mr. Lewis was known as the originator, and that, together with my own stock, is the only blood that exists in my birds. To anyone wanting to start in a new field and push a new variety, the Golden Barred Rocks certainly offer a great opportunity. Lack of house room has forced me to discontinue breeding this new, I must say, popular variety."

A WESTERN STRAIN OF GOLDEN BARRED PLYMOUTH ROCKS

In the West, L. E. Altwein, St. Joseph, Mo., claims the credit of having originated Golden Barred Plymouth Rocks, and furnished the following facts to the *Reliable Poultry Journal*, July, 1909, in support of his claim:

"I have been a breeder of Standard poultry for fifteen years, and during that time have bred and experimented with thirty-four different varieties in order to study them and learn their peculiarities. I have exhibited in the show room for many years and organized and was secretary of the first St. Joseph Poultry Association Show seven years.

"Nine years ago I decided to change the bars to buff on white and made the first mating at that time, using a single pair. I knew it would be hard to do and would take time, but I thought if I took care of myself I might live twenty years longer, so I gave myself twenty years' time to breed the Golden Barred Rocks.

"I mated only single pairs, some years having five matings. The family had lots of fried chicken for the culls were numerous. There were plenty of chances to sell the birds on account of their attractive appearance, but I never sold one, besides we had to have fried chicken each Sunday, so I only reserved the pairs to breed the following season.

"Utility has been kept in view, and I selected not only the best layers, but those whose eggs had a nice, even shell of dark brown color. The past year they have produced in the Golden Barred Rocks, the best winter laying variety, but I realize that care and feed have a good deal to do with the laying of any strain. They surely pay for extra care by filling the egg basket when eggs are high.

"The weight of the Golden Barred Rock is about the same as that of the other varieties of Plymouth Rocks, although I have some hens that weigh nine pounds. In

color, both males and females, run dark and light, and double matings should be made to produce Standard color in male and female. By Standard color I mean a Standard buff colored bar on white.

"The buff on white makes a very handsome fowl. They look handsome when out on the front lawn (the usual place mentioned where a fowl looks handsome). We have had many people attracted by their beautiful plumage, stop to inquire what kind of birds they are."



IDEAL FLIGHT FEATHERS.

The outstretched wing of the Columbian Plymouth Rock pullet illustrated above shows nearly ideal color markings of the primary and secondary feathers, the black in the web being sound and the white edging sharply defined.

CHAPTER VIII

Preparing Plymouth Rocks for Exhibition

Proper Feeding From Shell to Showroom a Most Important Factor. How to Condition White and Buff Plymouth Rocks for Exhibition

By D. E. HALE



EXHIBITORS who have had any experience at all in the showroom are agreed that the proper time to start fitting an exhibition specimen is in the breeding pen of its ancestors.

Granted that a chick has been properly hatched from parents that were in good physical condition and being naturally of a strong constitution, let us see what is needed to bring

this chick to the showroom in a good, strong, healthy condition.

Most breeders of exhibition poultry prefer the old hen for a brooder. Personally we cannot say that we do. The old hen perhaps has the advantage of not having the chicks as crowded as they are liable to be in a brooder.

Do not feed too soon, too much or too often.

Why? Because we are anxious to give these chicks the very best possible start. Study the old hen that steals her nest out in the woods or the fields. Does she proceed to gorge them with boiled eggs, chick feeds, etc., the first thing? No. They get very little to eat the first three or four days, and why? Simply because they must hustle for their feed from the very first and they have not the strength to do much running around the first day or so. Then too, the old hen will probably not leave the nest as long as there are any that will stay under her, consequently the others have to wait until she is ready. Nature has provided for such emergencies. During the last twenty-four hours of incubation the yolk of the egg is absorbed by the chick and it takes seventy-two hours for this to be digested. If we go to feeding the first thing the digestive organs are overtaxed, bowel trouble is the result and even though you save the life of the chick, it has received a setback.

A little sand or fine grit should be placed before them at first and after forty-eight hours a very little chick feed can be given them. If you are raising them in a brooder, see that it is placed in the litter, and by scratching it a little with your fingers you will not only see an amusing sight but they will have learned their first lesson in working for their feed and thereafter will know how to get it.

We very much prefer the prepared chick feeds on the market, several of which are first-class, as we believe that a chick raised on good hard grain right from the first, will do better than one that is fed wet mash. We are not going to discuss the various methods of feeding, for there are too many and probably a lot of them are good. We use chick starter, chick feed, scratching feed, and hen feed from start to finish, and have not only had the best of results from it but have found that it is the cheapest feed we can use.

KEEP CHICKS FREE FROM LICE

See that the chicks are kept free from lice and other vermin. Examine them often and attend to them. See that they have plenty of room and that their sleeping quarters are well ventilated. Remember that a chick doubles in size very quickly and they should be sorted and culled out quite often. In this manner they can be kept

growing all the time, which is the most essential point.

As the youngsters reach the age where the cockerels begin to try to crow, the sexes should be separated. Both will do better when each sex is by itself. When not separated the cockerels soon get to fighting to see which shall preside over the family councils and many a fine cockerel is ruined as a show specimen in this manner.

SELECTION OF SHOW SPECIMENS

Let us grant that we have followed either the above methods, or those given by other writers, and that our birds have reached that stage where we can select those we wish to compete for the ribbons at the coming shows. We will first take up the young stock and see what is needed. We should first look for disqualifications and if none is found let us see how the bird shows up for color requirements. Some of our readers will say that shape comes first; and so it does, but many times we select a youngster that is fine in color and when we put him on the scales—which is the next step—we see that he is light in weight, but of good size, i. e., has the frame, etc., to make a good specimen. When we get such a bird we put him by himself, or with a few others that are perhaps in the same condition, to be fed for meat. While our chicks are growing we always feed for bone and muscle and never try to fill them out until we have a frame that will carry the meat. These birds are put in a pen where they can have plenty of exercise, good, open, or well ventilated sleeping quarters, and above all are not crowded.

We begin now to feed them a little cut bone, corn, scratching feed, and, if there are any that do not pick up as they should, they are given a little boiled rice, which will put flesh on them very rapidly. With this treatment they soon come up to standard weight and are ready for the training pen.

A pullet is said to be ripe, that is, she is in the best and prettiest condition of her life for exhibition, just before she lays her first eggs; consequently if she should be a little undeveloped, she should be fed and treated as if we were after egg production. When her comb takes on that bright, healthy red color; when she begins to sing that mature happy song; when you see her beginning to look around for a nest, perhaps picking up a straw, and throwing over her back, etc., you can feel sure that she is about ready to begin paying her way and is in good condition. At this time, she too, should be in the training coop.

MANAGEMENT OF THE OLD STOCK

Now that we have selected the youngsters and have them in the training coops let us see how the old stock is shaping up for the same pen.

We should begin at least six weeks before the show to select and get in shape the old stock. If we find any that are late in molting, we should put them through the Van Dreeser method, unless we want to hold them back for a later show. The Van Dreeser method is named after the gentlemen by that name who first gave to the public this method of forcing a molt. The bird is confined in a cage for a week or ten days and starved, given nothing but a

little water for four or five days. After you have starved the bird for a few days you can begin to feed a little at first and increase gradually until the bird is eating all it wants. This feed should be good and perhaps a little rich; wheat, corn, buckwheat, kaffir corn, a little fresh cut bone, green food, etc. You will be surprised to see how fast the feathers will drop out. In fact the bird will look nearly naked and should receive the best of care at this time. When the new feathers come in they will all come nice and even and the bird will have a fine, finished, polished appearance.

Should your birds have been through the molt, look them over and see if there are any broken feathers, especially in wing or tail. If there are any, pull out the stubs so that the bird can grow new feathers, which will take about six weeks. Look them over carefully, and from your white birds, pull out the feathers that show a little ticking or peppered spots, that is if there are not too many of them.

Do not give your white birds any iron in the drinking water nor yellow corn to eat.

You will have no trouble in getting Plymouth Rocks, over one year old up to weight, provided they have the proper size and frame to start with as youngsters.

SUNSHINE OR SHADE FOR WHITE PLYMOUTH ROCKS

Giving the fowls the best places and conditions for their molting period is sometimes a serious question. As we read the various instructions written by other writers relative to a white bird molting in a sunny place or in the shade, they invariably say: "Keep them in the shade during the molting period." If a bird is bred white in the first place the question is not as serious. We can influence color to quite an extent by feeding and we think more so than with sunshine or shade. We have tried both methods on white and buff birds and have had both good and bad results.

The strongest lesson we ever learned was in Wisconsin. A friend of ours, Mr. George Schmidt, residing in that state, had produced a strain of White Rocks and White Leghorns that were about the whitest things in the line of feathers that we had ever seen. We had seen his birds at different shows and had often asked how he got them so white. "You must get it from the breeding pen," was Mr. Schmidt's reply.

Last fall we visited Mr. Schmidt's place. What was our surprise to see those birds scratching around in bare yards back of his store. Not a spear of grass or a bit of shade in sight unless they went into their houses for shade, and they did not do that. They were as white as chalk, yet had a good luster to their plumage. I asked him if he thought he could do any better by molting them in the shade. Mr. Schmidt said, "Why last year was the first year in a long time that I have been defeated in the showroom. My birds were as creamy as anything you ever saw and everyone wanted to know what I had done to go back in that manner. I thought I was going to do something pretty fine last year, so took all my best breeders out to my summer home on the lake. They certainly had ideal conditions. They were in a nice grove, could go down to the lake and scratch in the sand and the sun, or could go under the porch and wallow in the cool damp earth in the shade, which they did and seemed to enjoy, but what was the result? When I brought them home in the fall a more creamy colored lot of birds I never saw and I could not bleach them out by feeding, or any other natural way, until away along toward spring, and consequently I had to take a back seat for some of the rest. This year my birds staid here in town, back of the store, in the sun, and you can see the result for yourself."

Many of the other fanciers around there verified Mr. Schmidt's story, so it illustrates one of two things, viz., "it is a poor rule that will not work two ways," or else

someone has been away off in writing former instructions.

SHADE NECESSARY FOR BUFF PLYMOUTH ROCKS

We believe that buff fowls should be given plenty of shade in which to molt. If they are in a sunny place while the new feathers are growing, the chances are very great that we will have a fowl that instead of being a nice even color, will be mottled. Why? Because under natural conditions the feathers do not all grow at once. Those that come in first will be matured by the time others are only half-grown. The first ones will become bleached where they are exposed and not covered by the other feathers; consequently by the time the last feathers are matured the first ones are several shades lighter and give the fowl a mottled appearance.

If they can be kept in the shade while molting it will do away with this bleaching, and the plumage will be an even shade throughout if they have been bred to produce it. We cannot help the mealiness and shafty appearance by molting. These are defects caused in the breeding pen by the extreme color matings.

THE TRAINING COOPS

We will now go back to our training coops, where by this time we have both old and young stock ready for their final preparation.

The young stock will soon tame down as we feed them, and when feeding, pet them a little but be very careful not to frighten them. Get them accustomed to your passing back and forth in front of their cage before you try to handle them at all. Then when you feed, and gently pet them a little, they will soon get over their timidity. At this stage you can begin to handle them a little. Rub them under the beak and on the throat so that they will hold their head about where you want it. Do the same with the tail. If the tail is inclined to be a little pinched or narrow, much can be done by carefully spreading it when handling the bird. If they are inclined to carry it a little too high, it can be overcome to a certain extent by gently rubbing it downward.

As the bird gets so that it is not afraid to be handled, take it out and place it upon a table, barrel, or something of the kind, and while you are petting it and letting it eat a little out of your hand, rub it with a silk handkerchief, always rubbing the way the feathers lie, and you will be surprised to see what a luster you can produce.

Handle the bird as the judge will, viz., take it by one wing very carefully and lead it toward you, then with your left hand gently reach down and grasp it by the legs at the hock joints and lift it off its feet so that its breast will rest on your forearm. When you set it on its feet be careful that it has a chance to get its feet under it.

By handling the bird in this way a few times, it soon seems to understand what is expected and will pose for you as soon as you walk up to the cage, and this fact alone wins many prizes over superior birds not properly trained. Some trainers and judges will use a small stick to pet the birds, in order to get it to hold up its head, pose, etc. It is well to try this so that the bird will become accustomed to it and still show to good advantage should the judge use one. The old fowls will not need so much attention along these lines as they have been through it before and they do not forget.

The last steps in preparation with a buff fowl is to clean its legs and head. There is very little trouble in getting good yellow legs on a buff fowl. They should be scrubbed with a stiff brush, warm water and soap, well rinsed, and with a wooden toothpick, clean the dirt from under the scales of the shanks and feet. Should any of the old scales be softened and the under ones mature enough, the old ones can be easily removed at this time leaving the nice new yellow ones, which give a perfect leg.

The comb, wattles and face can be wiped off with a damp rag, which will give them a nice bright appearance.

Many exhibitors will use diluted vinegar, alcohol, olive oil and vinegar mixed, etc., but we think that a good cleaning with water will do the work, and if the bird is in good healthy condition, you need not worry about the comb, wattles and lobes not being red.

It requires patience to properly train a string of show birds. If they do not pose the first or second time you try it, do not get discouraged and leave them. If you love the fowls as a good fancier should, you will have the patience. Some of those cockerels will try to fight you, peck your hand, etc., but that is the spirit we like to see; it shows vigor.

TRAINING AND CONDITIONING WHITE PLYMOUTH ROCKS

The White Plymouth Rocks need the same training, so far as handling is concerned, as the Buffs. They are treated just the same until they reach the final preparations. They have then to have their bath. Sometimes, if they are exceptionally dirty, they must have two or three, getting the last one in time to get thoroughly dry before being shipped to the show. If you have very many to wash you will need an assistant. In fact an assistant is very handy whether you have one or many. Get three wash tubs ready. Into tub number one put some warm soft water; in tub number two put some clear water, cooler than in tub number one and have the chill taken off of it and about lukewarm; into tub number three put some bluing similar to that used in laundering white clothes.

Take the fowl in both hands, holding the wings tight to the body to prevent flapping and slowly immerse in the warm water.

This should be done rather slowly until the plumage is thoroughly soaked. Work the wings back and forth for it will take longer to get the stiff wing feathers soaked through, and in this manner you will get the water well worked into them. Turn the plumage toward the head a little, but carefully, the object being to get the feathers wet through, even the under part of them.

It may surprise you to see how long it takes to get the feathers wet through. Once the bird is thoroughly soaked you can then take a handful of soapsuds that has been prepared in a pail or bowl and rub onto the feathers, rubbing the way the feathers lie, at first; after a while you can scrub and rub them anyhow you wish, for they will not break after they get thoroughly soaked. Have your assistant hold the bird while you take and spread the wing out on your hand, and with a stiff brush and lots of suds thoroughly scrub it.

Look after the undersides of these wing feathers and down at the root or base of them and get out all dirt. It may be that a feather has been injured and a black streak of dried blood may be seen on the under side.

While the wing is in this soaked condition it can be easily removed by scraping with your finger or thumb nail.

Be careful with the tail. Look well to the roots or base of these feathers and be very careful not to break or pull out any of them. Remember these sickle feathers are worth one and one-half points each and we cannot afford to lose them at this stage.

Do not be afraid to sud and rinse and scrub, holding the feathers on one hand while you wash with the other. When you think you have the dirt all out, then rinse the best you can in this water, then press or squeeze out as much as you can before putting the bird in tub number two. This water is not as warm as the other, remember, and is merely for rinsing.

Those of you who are lucky enough to have a place for this purpose where you can have warm and cold water piped into a tub or bowl, can use one of the sprinkler heads on a rubber hose similar to those used by the barber when he shampoos your hair, and will have the finest kind of an arrangement for rinsing your birds. This latter operation is one of the most important. Be sure and get the soapsuds all out. If you do not, the feathers will be

matted and in a sticky condition and the bird will look worse than before washing. Rinse and rinse, and when you think you have rinsed enough, then rinse some more. Pour it all through the plumage, loosen up the feathers and see that every section is thoroughly gone over. When you are satisfied that you have the suds all out, then put the fowl in tub number three and go through the same performance.

We neglected to say at the start that the room should be warm. Figure on taking a bath yourself at this time of the year and regarding the temperature of the room, act accordingly. We presume there are more chickens washed in the kitchen and down by the furnace than any other place. Not very many of us have a room outside, where we can wash chickens.

As soon as you are through rinsing the bird in the bluing water, then take it out and press as much of the water out as possible. Then you should have several large towels ready and wrap one around the fowl so that the wings are held firmly to the body: just have the head and legs sticking out. The fowl will present a sorry looking sight about this time, but never mind, it is all right. While you have the fowl thus wrapped, take it under your arm and clean the scales off the legs and feet. This can be done very easily now that the legs are so well soaked. The scales will be soft and pliable and easily cleaned. If the bird shows signs of being cold, shivers, etc., we always give them about half a teaspoon of whiskey or wine to prevent catching cold.

As soon as you get the legs cleaned, unwrap the bird, and toss it to the ceiling several times, catching it as it comes down. You will think you are under a shower bath, but do not mind that, as it is one of the best ways to get the water out of the plumage. The bird will, of course, flap its wings and will shake out a lot of water that you cannot get out otherwise, and it will dry quicker when you put it in the drying coop.

If you are going to dry the bird in the house, the best way is to have an exhibition coop in which has been put some nice clean straw, placed near the stove or the furnace. Over the front of the coop hang a piece of muslin. This is not too heavy and yet allows plenty of heat to penetrate, but not too directly.

Should you put the fowl in an open front coop in front of the fire the chances are that you would get too direct a heat, which would cause the feathers to curl on the tips and give the bird a very rough appearance.

Leave the bird alone until morning. Let it plume itself, and with the room kept at an even temperature all night it will not look like the same bird in the morning.

Now before shipping let it become accustomed to the outside temperature gradually. Give a feed of raw onions and if you hear any of them sneezing give a little liquor also, so as to ward off the colds they are subject to in being shipped to the show.

If you were careful in getting the old scales all off their legs they will have nice bright yellow legs, and if they have not the color in the first place, it is foolish to try and deceive the judge with artificial coloring.

On their arrival at the show there is not much to be done. If you can possibly go yourself, and you are showing where the Association furnishes the cages, you want to see that the inside of the cages are cleaned before putting your white birds in them or you may wish that you had never gone to all the trouble of washing. Wipe the cages off with a cloth, sides and top, and see that the litter in same is nice and clean.

If the birds' heads look as if they needed a little brightening up you can wipe them off with a damp rag, or it might be well to use a little diluted vinegar in doing so, just before the judging begins.

Now the best thing to do next is to curb your patience, make up your mind to be a good loser; then, if you are a true fancier, you will feel well repaid for your work whether you win or lose.

Judging Plymouth Rocks by the Score Card

How to Cut for Defects in the Shape and Color Sections of Barred Plymouth Rocks

By I. K. FELCH

[EDITOR'S NOTE:—I. K. Felch has probably made a closer study of the Score Card, as a cutting power for defects in Standard-Bred exhibition specimens, than any other living poultry judge or breeder. Although the following article appeared in the 1906 edition of "The Plymouth Rocks" we deem it of equal importance at the present time, so reprint it for the benefit of those who are interested in the score card system of judging.



WHEN the male is scored he should have his full muscle growth, but be free from fat, and his plumage should be three-fourths grown. He should then be up to the standard weight of eight pounds. When he has molted into his cock form and recovered from the strain on his vitality, and has put on his adult plumage, he will weigh about nine and one-half pounds. Following is a description of both

male and female section by section, with the proper discounts for defects.

THE COMB

The comb of the Plymouth Rock male is single, of medium size and evenly serrated, being divided into five points, so graduated that the center and largest point stands the highest, and the outside line from front to rear is parallel with the natural growth of the skull. The comb must stay in a straight line from front to rear and the sides must be smooth and free from wrinkles. The rear point is counted with the flange. The points of the flange are not counted. The forward flange is considered with the point in front. Comb should be deep crimson red and fine and firm in texture.

The comb of the female is very much smaller in proportion to the size of the bird and the flange is not so pronounced as in the male. The comb must be straight and firm in position and the top line is straighter than in the male and the points are less prominent.

Defects.—If the comb is too large or too fleshy, if the serrations are irregular, if it does not follow a straight line from front to rear, cut one-half to one and one-half points for each defect, according to the degree. If there are more or less than five points, cut one-half for each point that is missing or each point in excess of five. Cut one point for each side sprig.

Disqualifications.—If the comb is other than single, if it is lopped—falling to one side, or if it is twisted to form the letter S in front, refuse the specimen a score card or a prize.

THE HEAD

The head should be medium in size and length. The top of skull of the male should be covered with silver blue feathers, barred with fine, dark blue lines. The eyes should be large and bright bay in color. The beak should be apparently stout at its juncture with the skull and be nicely arched to the point—in color, yellow. The wattles are pendant, hanging below the lower edge of the earlobes, which should be fairly well developed. Face, earlobes and wattles are crimson red.

The head of the female is in keeping with her finer nature. The earlobes are very small and the face is not so broad and deep as in the male, but they are crimson red. The plumage of the skull is a darker shade of blue; the eyes are prominent and bay in color and beak is yellow, but it may be slightly striped.

Defects.—If the eyes are other than bay in color, or if the beak is slightly turned, or too straight, cut one-half to one point; if the head is too narrow, or depressed in front of the eyes, cut one-half to one and one-half points for each defect, according to degree.

Disqualifications.—If the beaks are crossed, neither score card nor prize should be awarded.

THE NECK

The neck of the male is medium in length, that is, it should appear to be rather long instead of short and thick. The plumage of the neck called the hackle should be narrow and long and fall down over the shoulders, completely covering the cape. In color the hackle should be silver blue, or, one might say, a light shade of bluish gray, and each feather is barred with eleven to seventeen bars of slate blue instead of blue black. The juncture of the head and neck should be prominent, the neck showing a fine, even curve nearly to the base, and then a concave sweep out on the cape, matching the convex curve above.

The neck of the hen, while it may be shorter in proportion to her size, appears so because the plumage has no semblance to a hackle, the feathers being as wide, but longer than those of the body plumage. The colors most in keeping with the standard demand are a bluish gray, barred with five, seven or nine bars of a dark blue. The under-fluff in both sexes is apt to be a light shade of bluish gray. Especially will this be found in the male and it gives a lighter appearance to his neck, which, with the saddle hackle, tend to make the males look much lighter than the females.

Defects.—If the neck is too straight and the head carried too far forward, cut one-half to one point; if too light in color, even reaching white in the under-color of the males, or if the neck plumage is too short and fails to cover the cape, and the barring is too dark and black, cut one-half to one and one-half points for each defect, according to degree.

THE BACK

The back should be medium in length, but in the male, on account of the abundant saddle hackle, it does not look long. It should be flat across the cape over the small of the back. The back nearly to the hips has a slight downward incline, from which point it rises in a gentle concave sweep to the tail. The saddle hackle should be abundant and flow downward over the points of the wing-bows. The longer these feathers, the more beautiful they are, and like the hackle, they should be silver blue in color and show from nine to seventeen bars. The plumage of the back proper should be bluish gray, barred with a darker blue that must stop short of a positive black.

In the hen the plumage of the back and saddle shows one even shade of bluish gray, barred with dark blue—this barring may be a dark slate or blue-black in the female. The whole back to the tail coverts should have a rather long appearance. The slight dip near the tail proper gives a puff or slight convex line at the extreme rear of the saddle where the saddle and tail coverts meet.

Defects.—If the specimen shows a too narrow formation of the back, if the saddle is oval from wing to wing, or the back roached, if the under-color is too light, or shows positive white, if there are less than five bars in the back plumage proper, or in the entire back plumage of the female, cut one-half to one and one-half points for each defect, according to degree.

Disqualifications.—If the shell bone is crooked, disqualify the specimen.

Note.—The standard does not demand that the plumage be barred to the skin, but it does demand that the under-fluff shall be bluish-gray and the web of the feather must be barred sufficiently to secure parallel dark bars on the surface. This is secured when there are five, seven or nine bars, but if the under-fluff is barred, it is not a defect. The standard says, "The barring must positively show the entire length of the feathers in all sections where they are not mostly composed of down." The down is the under-fluff. This exception is a wise one, because when a specimen is barred to the skin, the surface bars are always black, and the Standard emphatically declares that the bars must stop short of black. Black and white are both to be considered foreign and punishable colors, when judging Plymouth Rocks.

THE BREAST

The breast should be full, broad and deep, the quarters being well developed. In color they should be bluish-gray barred with deep blue.

In the female the breast appears less prominent, because of the heavier posterior weight. The color should be the same as in the male, but usually it is a trifle darker in shade.

Defects.—If the breast is "wedge-shaped," caused by not being full enough in the quarters to give the full, round shape desired; if the under-color is too light and if the feathers fail to show parallel lines when the head is thrown back, cut from one-half to one and one-half points for each defect, according to degree.

BODY AND FLUFF

This section may be said to be related to the breast. If the shape of the latter is not cut more than one point, the body and fluff is seldom cut for shape. They should meet the breast smoothly and show well rounded sides. The keel bone should be absolutely straight and carried well down and the muscle along it should be full, round and firm to the touch. The fluff should be tolerably full, in keeping with the balance of the breast and roundness of the body.

The body of the female appears longer in proportion to her size than does that of the male. In color it should match the breast, but it grows somewhat lighter in the fluff, which is generally a bluish-gray with indistinct bars.

Defects.—If the breast bone is crooked, sides flat, or the fluff scanty, cut one-half to one point for each defect, according to degree.

THE WING

The wings should be of medium size and the fronts should be buried in the breast plumage. The rose is well rounded, and in the male the points of the wing-bows are covered with the saddle hangers. The surface color of the rose should be bluish-gray, finely barred with dark blue. The secondaries and primaries may more properly be described as marbled with slate blue. When the wing is extended, it should show three parallel lines of the light shade, the darker color predominating.

In the female the entire surface of the wing when folded should be well rounded and show a pure shade of bluish-gray barred with dark blue. The primaries and secondaries are marbled, as they are in the male, and when extended they show the light lines parallel across the wing as a whole, not as in the other plumage, showing lines across the feather. In the chicken plumage the feathers show bars running across them, but the adult plumage is marbled.

Defects.—If there is white in the flights, or the secondaries are black and smutty, cut one-half to one and one-half points; if the wing is carried too low and is flat in the rose, cut one-half to one point; if the secondaries or primaries are twisted, cut one-half to two points. We think that when the primaries are folded outside of the secondaries, the specimen should be refused a score card.

THE TAIL

The tail should be well developed and spread latterly like the letter A, or, say, like an inverted V. It should be carried so upright that a drop line from the tip of the deck feathers would meet the tip of the tail feathers proper. The sickles and lesser sickles are well curved and extend but little beyond the tail proper. The larger coverts curve downward and extend to the rear even with the tail proper, the lesser coverts being abundant. The barring of the tail proper is somewhat marbled in character, but the sickles and coverts are regularly barred across the feathers. In color they are bluish-gray barred with blue that stops short of a positive black.

In the female the tail proper should show clearly beyond the tail coverts, and should not close to a point, but should be fan-shaped. It should be a darker shade of gray and blue than shows in the male.

Defects.—If the tail is carried too high, cut one-half to two points, because it may verge on "squirrel tail". If the tail is folded to a point, cut one-half to one point; if it shows positive black or white, cut one-half to two and one-half points, according to degree.

Disqualifications.—If the tail is carried positively to one side (wrytail), refuse the specimen a score card and withhold prizes.

THE SHANKS AND FEET

The thigh is medium in length and firmly clothed in plumage of blue-gray, barred in parallel lines of dark blue. The shanks are medium, neither long nor short, and the toes are well spread and strong looking.

The shanks are yellow. The male shows these features heavier and stronger than the female, in proportion to his size.

Defects.—If the legs are long and crane-like, or if the shanks are too long, or are spotted with black or brown, or if the legs are turned in at the hocks, cut one-half to one and one-half points; if the thighs are lightly muscled, and the plumage shows indistinct lines running around the thigh, cut one-half to one point for each defect, according to degree. Cut one point for each crooked toe.

Disqualifications.—In case of generally deformed feet, positive knock-knees, or if the color of the shanks is other than yellow, or straw color in old birds, disqualify the specimen.

Judging Barred Plymouth Rocks at New York

The System of Comparison Judging, Followed by a Prominent Breeder and Judge for Many Years
at The Madison Square Garden Poultry Exhibition.

By P. H. SCUDDER

[EDITORS' NOTE:—The Barred Plymouth Rock classes at the New York Show are so strong in quality and the rivalry among exhibitors is so keen, that the judging of them is a most onerous task and rarely, if ever, have the judges of these classes been able to please all of the exhibitors. Mr. Scudder, however, was one of the most satisfactory judges of Barred Plymouth Rocks at the Madison Square Garden for a long term of years, his work always being conscientiously and thoroughly done. He explains his method of judging Barred Plymouth Rocks in the following article in clear and convincing manner, which cannot fail to be of great assistance to others who may be called upon to place the awards on Barred Plymouth Rocks at future shows.]



HAVE been greatly interested reading in the various journals sent me the views pro and con of different breeders regarding the breeding and judging of Plymouth Rocks. I think I may venture to say that the vice of failing to agree as to what is standard shape, color and carriage, is not confined to the judges of the Plymouth Rock class alone. A perusal of the many scholarly contributions of both breeders and exhibitors will at once demonstrate that both breeders and exhibitors are as far, if not farther, from being of one mind as to what constitutes perfection of form and color as are the judges. I have no desire to attempt to lay down the law. I do, however, desire to bring to the attention of every breeder and exhibitor of Plymouth Rocks the principles that I have endeavored to follow in awarding the prizes at Madison Square Garden for many years past.

I would also like an opportunity to say a word in defense of the application of these principles. I have studiously endeavored to apply the same principles in making my awards as I like to see applied by the best jurists in our courts. First, however self-sufficient this may seem to those who ascribe to me prejudice in favor of different fads, I firmly believe and as strenuously endeavor to practice my belief that no judge has any right to arrogate to himself such an interpretation of the standard as will permit him to ride hobbies. It is not what a judge likes that is the law of chickendom, but it is what the standard says that counts. The personal equation must, perforce, so long as men are men, enter into the interpretation of any written law, but beyond those modifications, which are the fruit of the action of the individual mind in interpreting written language, no man who aspires to the position of judge should permit himself to go. In a word, a man who has not the judicial temperament, or having it, has not the brains to apply the law as laid down, should be relegated to the spectators' bench.

How often have we heard men clothed with the ermine uttering such sentences as these: "When I see a good bird I cannot score her high enough, and when I see a bad one I cannot hit her hard enough." The practice in small local shows of scoring the winning birds at 94, 94½ and 95, no matter what their actual quality, is a most fruitful cause of bickerings. The vulgar, every-day form of trickery, such as taking care of one's friend at the expense of one's enemies, I may with perfect truth say I have never seen at any of our poultry shows. But we do see, and see every day, specimens whose actual value is not a point above 90 scored away up into the middle nineties. Were those specimens to be placed that self-same day in New York in competition with the birds that gather there, and the same judge called upon to officiate, those very birds would not go above ninety or ninety-one; and right here let me add a word, there is a greater difference between a ninety-four and a half point bird and a ninety-five point bird

than there is between a ninety point bird and a ninety-three point bird.

VALUE OF THAT LAST ONE-HALF POINT

A mathematical comparison of the values of the two classes of birds is of but slight value unless we analyze what such a comparison means. A man who can turn out a trotting horse that can go in 2.03 can get his own price. The half-dozen horses with records ranging from 2.05 to 2.06 together can hardly command the price the one phenomenal animal capable of the mile in 2.03 would command. Every fraction of a point increases in value in geometrical ratio as one approaches perfection.

The New York Show is the rallying ground of the birds that have won the highest honors in their local exhibitions, and many of them have had further stamped upon them the approval of Boston, Washington, Chicago, St. Louis and other great shows before finally assembling at New York. The Plymouth Rock class presented for the consideration of the judge is not an indiscriminate selection from a thousand poultry yards, but is the concrete expression of the efforts of the most skilled breeders in the country after having been passed in review before a trained body of inspectors who have winnowed the wheat from the chaff and selected what in their opinions were the plumpest and finest grains.

I have often thought a lack of uniformity of type in the birds picked out by me as the winners at New York has been due to the lack of uniformity in the type of the winners selected by other judges in advance of the New York show. Has it ever occurred to my kindly critics that the birds placed before me are the selections made by the best judges in the land in a hundred hotly contested exhibitions, and that such selected birds should so nearly approach a uniform type as to leave me no opportunity for such a diversion from that accepted type as would cause comment, unless I deliberately sacrificed truth to rascality? Yet consider what does confront me! Twenty-five selected females, we will say for example, in the pullet class, every one of them a winner in former shows; ten other pullets, either held in reserve by their owners or selected by them as equal or superior to the birds that have passed through the ordeal of the show room.

Are these thirty-five birds of one settled type? Not at all. Do they approach any one fixed or settled type with merely such modifications and variations as the individual always displays in a state of nature? Still less. The fact is that every conceivable type of bird as regards shape, carriage, color, style and size is presented for me to select from; and yet the men who judged them at former shows are presumed to have no less a knowledge of how to apply the standard than have I. Were the standard applied in an ideal manner, the tendency of the selections made at the minor exhibitions would be to conform to one type, and the judge at the big final show of the season would then only have the task of making his selection of the best from the many specimens approaching more or less near

to that one type already defined by the judges at the preceding shows.

Now let us take these birds up as individuals and what do we find? Probably twenty of the thirty-five have won at some one of the smaller shows scoring 93 1-3 to 94 points. The other fifteen run from 94 to 95, as birds are scored at such shows. Now one of two things is the case—either the men who scored these birds at former shows did not know their business, or I (to be logical in my work) must put these birds all on an even plane and say that they are all alike and all equally worthy of a first prize, that is, to say that all those which scored 95 in the past should have a first, and so on down the list.

To do that would be a very easy way out of it for me, but I fail to see how it would be of any great value to the exhibitor. The only other course open to me, therefore, is to examine and see how the gentlemen who handled these birds in former shows did their work. Now, good brethren, nothing personal is meant by this, I have no axe to grind. I am seeking no business judging shows. I am pushing no strain of birds, and those who have seen me work will at least credit me with doing what I do thoroughly, and herein lies what I think is the cause of much, if not all, of the adverse criticism on the results achieved in New York.

ONE FORM OR STYLE OF SCORE CARD

Well, here we are with fifteen birds that under ordinary circumstances would score from 94 to 95 points in any local show, and of which probably ten have scored 94½, 94¾ and 95. What is the first thing I do in the class—I start at one end and look over every bird without annoying them or in any way distributing their natural position. Birds with smutty tails, a dozen black feathers appearing on the surface, white in the ear-lobes, absolutely no form or shape resembling that of a Plymouth Rock, barring that is full of black and brown spots, are thrown out at a glance. It is not necessary to examine such birds with minute and careful attention, no more than it is necessary for a judge in a trotting race to consider whether a horse a quarter of a mile behind the flag should be assigned a position in the scoring for the next heat. Assuming that we have eliminated from the list all the birds that upon the surface have absolutely no claims to recognition, I then tie a piece of red or white braid to the front of the coops containing those that seem worthy of further consideration. I have a large sheet of white paper and divide it into heads as follows:

Coop No.....	Form, Size.	Color	Useless Parts.
Form	10		
Surface color.....	10	10	
Under-color.....	10	10	
Comb and Wattles.....	10		10
Head	5		5
Neck	10	10	
Back	10	10	
Body and Breast.....	10	10	
Wings	10	5	5
Tail	10	5	5
Legs	5		5
Totals.....	100	50	30

It will be noticed that form, shape or carriage, style it what you will, commands fifty points; color, as color alone, 30; and the useless parts from a utility standpoint, 20. Now if solid black feathers appear in the neck, back, body and breast they are cut accordingly, and a note (B. F.) made in that section.

I go over the entire lot of selected birds, which we will say numbers fifteen, and after looking them over carefully and comparing one with another, I mark that one which nearest approaches a perfect form, say 9½ in the proper space indicated under the head of form on the memoranda

sheet; and then without disturbing them I go over the entire lot and select that one which seems to me to carry the best surface color and mark one 9, 9½, 9¾ on my memoranda sheet, as the quality of the surface color would seem to warrant. All birds inferior in form and color to the two selected as best in form and color are marked respectively 9, 8½, 8 and so on as they severally would seem to be worthy. I next take the shape, the color and the condition of the comb and wattles, marking the best one in the class whatever it is worth and the others accordingly. I next take up the head, including eye, beak, and face, also ear-lobes, and mark the bird having the best of those qualities the highest, and the others in proportion.

THOROUGH WORK NECESSARY

I now take each one of the fifteen selected birds out of its cage, one after the other, and examine their under-color from top to bottom, that is to say the neck, back and body under-color. To that bird having the best I again give the highest mark, and so on down the list. I now take up each separate section, neck, back, tail, wings, body and legs. I pick out the one having the best shaped neck. This does not mean the best shaped neck as it would appear if cut off from the body and considered by itself, but the best shaped neck considered in its relation to the manner in which the head is attached to it and to the manner in which it, the neck, in turn is attached to the body.

I go through the same thing as regards the back, looking for a roached back or a dropped thigh or any other deformity, and mark the back in proportion to its approach to an ideal form considered as before with regard to the joining of the back with other parts of the body. I then pass to the tail, and here, as we have not considered the under-color, I examine the entire tail for discolored feathers in any part of it, breakage or loss of feathers, and mark it accordingly, counting five of the ten points for color, and five for the shape of the tail, both as regards its shape itself and especially as regards its attachment to the body proper of the bird. The same thing again is done with the wings as with the tail, and the same with the body as with the neck and back. The ten points of the body are entirely given to the shape of the individual parts, as the color of the body is taken care of under the heads of surface color as a whole and under-color as a whole, unless I find hidden black feathers, in which case the section containing the same suffers pro rata, and a note is made that it is not the shape, but the black feathers that caused the cut. The wings and tail I think should be in a separate class as regards under-color.

OBTAINS "COMPLETE AND DETAILED MEMORANDA"

Now you have my method of scoring, or rather of making what is for me a complete and detailed memoranda of the different parts of each and every one of the birds that passes through my hands. I make no claims of superiority for my method. It covers the ground more satisfactorily, and, to my mind, more fully than the standard score can, and discloses at a glance what I have found in the nature of defects, such as black feathers, bars more nearly approaching the nature of spangles than of bars that meet standard requirements, bars indented on both their upper and lower edges with saw teeth indentations wherein the white of the bar almost breaks across the darker portion, and bars with a black sheen or glint such as we find in the Langshan.

To cite a peculiar incident of last winter's show—a bird about which there was always a crowd was peculiarly flecked with white all over her neck, breast and body. Every feather at about one-half an inch from the tip when examined by itself looked as if some one had taken a very fine camel's hair brush, dipped it in white paint and imprinted a little round moon mark right in the center of the second bar from the tip of the feather. Like many others I

saw something peculiar about the bird, but her beautiful form, almost perfect legs, beak and comb captivated me, as they did nearly every fancier present. I could not understand what it was that marred her charm, yet felt there was a something which finally disclosed itself on careful investigation. When I pointed out the defect, as I did afterwards to a dozen or more prominent breeders, all of whom "could not understand why this bird did not win," each and all exclaimed, "By gracious, that's so! I knew there was something the matter with her all the time, but I just could not quite make out what it was." And yet, before pointing out this white flecking, I was soundly berated by a gentleman who knew it all, for not placing this bird higher than I did.

Friends, the truth is, that all of us fail more or less to see what we look at. Put the city man in the bush and a thousand signs and indications that are like an open book to the woodsman are passed unnoticed. It amounts simply to this, the things we see do not impress themselves upon our brains, and so I have found it to be with dozens of my friends in the poultry world. How many hundreds of defects I have pointed out to men who ought to have seen, but did not see, I cannot tell. I have done it, and have done it so long and so often that my spectacles have become a sort of standing joke among breeders and exhibitors where I have had the honor of judging.

EVERY HONEST, CAPABLE JUDGE WILL DO THIS

Another rule that I do my best to live up to is to give, when scoring, absolutely the same score to birds in a small show that I would give to them if put before me in Madison Square Garden. Not only do I not think it any kindness, on the contrary, it amounts almost to a crime in my estimation, for a judge to give to 90-point birds scores of 93 and 94 in small local shows simply because the boys do not like to have the scores of the winners down low. How often have I been applied to with the request that I score the winner as high as I can, and the next prize birds in proportion, so that they can have something to "whoop it up" over in their advertisements. I do not do that way, and as a consequence I am not a popular judge, as popularity goes. I am not seeking engagements to judge and do what I do of it solely for amusement, giving the best there is in me of brains and heart to my work. The first great reform and the best cure for most of the differences existing today in Plymouth Rock circles is for all judges to resolve to give only such scores to each individual, as the individual would get in the hottest of hot competition, where the best of the breed are assembled.

One last word as regards the work in New York. Where there are fifteen or twenty birds in a class and all of them

have scored at minor shows within one point of each other, it is not within the range of probability, nor within the range of possibility, that when a winner is selected out of the lot the score of the first, second and third should differ more than one-quarter or one-half point. In the eyes of the on-looker there is always a great gulf between the bird given first and the bird given second, yet in reality, as my notes show, there is often times less than three-quarters of a point between the first and the third or fourth prize birds. Were it otherwise it would be an irrefutable proof of the most flagrant ignorance on the part of the men who award the prizes at the minor shows.

There is no such ignorance. Every one of those men does his work as thoroughly as he can and does the best he can, and does it well! but he in turn must pick from the material before him that which, when all the defects are balanced, comes nearest to attaining what he believes to be an approach to the ideal described in the standard. What can I or any other man do when when two birds are placed before me—one of surpassingly beautiful form and poor color, the other of poor form and perfect color, both the same size, the defects of one balancing the defects of the other? Upon close examination I may perhaps find that the bird with the perfect form has ten black feathers scattered through its neck, back and breast. No matter how much I may want to give the bird with the perfect form first prize when in competition with the bird of poorer form and perfect plumage, how can I do so in the face of those ten black feathers, assuming always that the weight of all other defects in one balances the defects in the other?

The highest type of judge is the man who judges things as they are and not as they would seem to be. Many do not take the time, or, to be more charitable, they have not the time to see things as they are, and so take the easiest road, which is to believe that things are what they seem to be, and thereby fall into the most serious of all errors, when judged from the standpoint of one who is charged with the duty of weighing the good and the bad, to-wit, that of mistaking the semblance for the reality. My utmost endeavor has been put forth to have a reason, not a flip-pant, off-hand reason, but a reason founded on good, sound, solid facts for every award I make. But once have I been tripped, and then I neglected to show foul feathers I had found to a third person before leaving a disqualified bird. On that occasion I signally failed to demonstrate the why and the wherefore of the awards made.

If anyone can devise a more thorough method of weighing the defects and estimating the value of the good qualities of the great breed of fowl that has been my special delight, I shall be pleased to sit at his feet and learn.

Heads, Combs, Wattles and Ear-Lobes

The Single Comb of the Plymouth Rock. The Ideal Head. Common Faults Found in this Section. The Heads of More than a Score of Famous Winners, Both Male and Female, and How They Differ From the Ideal. Importance of the Head, Which Truly Indicates the Breeding of the Bird

By FRANKLANE L. SEWELL, Artist



THE Plymouth Rock resulted from a mingling of the old Dominique and Asiatic blood and the early Dominiques were bred with both single and rose combs.

A C. Smith, in his very interesting history of the origin of the Plymouth Rock, seems to me to have the best authority for claiming that the Dominique male, whose blood is most influential in fixing the type of the Plymouth Rock fowl, was a single comb bird. The old Scotch Gray, possibly responsible for the Dominique, is a single comb race. The Asiatics used in producing the Plymouth Rock had also the single type of comb. So it would appear that any other type of comb that has appeared in estab-

lished lines of the breed is apt to have been from foreign sources.

Pea-comb Plymouth Rocks gained admittance to the Standard of 1888, but were not long recognized as belonging in the Plymouth Rock class in the Standard. Since then none but the single comb has been admissible on the Plymouth Rock. It is certainly the most attractive comb on this breed and gives a sprightly appearance to the head.

The Standard description for the



FIG. 1—NOMENCLATURE OF HEAD

1—Base of comb. 2—The points. 3—“Leader” or rear or terminal blade 4—Upper part of the skull. 5—Bill or beak. 6—The face, 7—The wattles. 8—The ear-lobes.

Plymouth Rock comb is: “Single, of medium size, proportional to the specimen, set firmly on the head, straight and upright, evenly serrated, having five well-defined points, those in front and at rear a trifle smaller than the other three, giving the comb a semi-oval appearance when viewed from the side; fine in texture; blade, free from serrations or points.”

For convenience in referring to the different parts of the head and its adjuncts, comb, wattles and ear-lobes, we have numbered the different sections for which fanciers have definite terms.

No. 1—The base of the comb, strictly speaking; that is, the thickest part of a single comb and the section that joins the head.

No. 2—The points. The ideal comb desired by fanciers should have just five of these points, well defined. The front point should be the smallest, the second point and the fifth point look well when about equal in size. The third from the front which rises nearly above the eye of a well-poised head, is next to the largest. The fourth point

should be the largest on five-pointed Plymouth Rock combs.

No. 3—The “leader” looks best and approaches nearest the ideal when tipped with only one point at the extreme rear—see illustration. The blade might be said to extend clear through from front to back of the main part of the comb and be divided into front blade, main blade and rear or terminal blade. The word blade may be applied to all of the comb below the bottom of the points.

No. 4—The upper part of the skull.

No. 5—The “bill” or “beak,” consisting of upper and lower mandible.

No. 6—The face. On the Plymouth Rock this is all that portion covered by red skin surrounding the eyes between the feathered upper portion of the head and the ear-lobes and wattles and between the beak and the ears proper.

No. 7—The wattles. These are pendant from the base of the beak and the face and the sides of the throat.

No. 8—The ear-lobes. These are folds of bare skin attached to the lower par of the face below the ears proper.

COMBS OF PRIZE WINNING FOWLS

The group of male Plymouth Rock heads shown in Plate



FIG. 2—Illustration of defects found in combs.

II. faithfully portrays three famous males that won first prizes at Madison Square Garden. The one to the left is of a White Plymouth Rock cock, three times a winner of first at this greatest of shows, winning once as a cockerel. He possesses a fine, well-balanced type of head for this breed. The form of this bird's head, the skull and face are about ideal and the eye is of fine character and expression, for which the broad skull and moderately full brow are partly accountable. The form of the beak is as good as we have ever found, being of a length that looks right with this head. It shows strength and the upper and lower mandible come together just right. The comb is of “medium” or Standard size, firm at the base, being of that thickness that will always carry a comb rigidly erect if the upper part of the comb is firm in substance. In the case of this bird, the comb was of that stiff gristle that always holds its shape, even when frequently bruised in transportation and exhibition.

This comb would be difficult to improve in shape. It is very nearly ideal, with nicely-formed, erect serrations regularly divided into the five points demanded by the Standard. The texture is quite regular and smooth for a cock



PLATE II.—Single Combs as found on high-bred exhibition Plymouth Rocks. Heads of three Madison Square Garden winners. For description see accompanying article.

in this third year. The color of the comb, of course, cannot be shown in this article, but we will venture to say that the color of a vigorous, healthy bird's comb is more of a crimson than a vermillion red. The healthy bird should not show light yellowish red in the comb, nor a dark purplish hue, both of these shades indicating that the bird is not in perfect condition.

The ear-lobes and wattles of this specimen were not as perfect in form as its comb, both having an inclination to wrinkle. The wrinkle on the wattle would prove a troublesome defect. This might have been modified and the wattle improved while the bird was young and developing by carefully handling and rubbing it into its correct form. There is an indication that the bird's wattles had been slightly frosted, which would partially account for the wrinkle becoming so pronounced.

HEAD OF AN ARISTOCRAT

The middle head in this group is that of a Barred Plymouth Rock cockerel which won special at New York in 1907 for best shaped male. It shows an all but perfect comb. There is a slight indication of a small point in front of the first regular point. Some experts might say that if the three largest points were just a trifle shorter the comb would appear more perfect. The latter ends excellently. The upper mandible of the beak in the sketch appears a little overdone. The head is that of an aristocrat among fowls, with fine character expressed in the eye. The face is smooth and the wattles join the base of the beak without any inclination to coarseness or wrinkles. The wattles balance in length and size, are correctly rounded at the edges and are very well proportioned in size to the head carrying them. They are free from wrinkles and thin and fine in texture—as nearly ideal as one is apt to find in the best classes. The ear-lobes are also as fine as

one usually sees on the best specimens. On small birds more oval ear-lobes are sometimes seen. Such ear-lobes are firmer in texture, but are frequently tinged with white pigment on the surface. The full, thin-skinned ear-lobes are pretty sure to prove the finest in texture and the brightest red in color.

The throat, where it joins the beak and shows between the wattles, helps to give balance of form to this head, and the juncture of the head and neck is typically Plymouth Rock, "nicely tapering", as the Standard describes this section of the neck. In some specimens at this point there are too many angles or the neck is apt to arch too much to correctly express the ideal of this modified American type.

The third head of this group illustrates what too often is the result on the head of a very rapidly grown cockerel whose development was hastened so much that the bird did not have time to develop firmness of comb. Artificial forcing is often accountable for such softness appearing in a bird's comb. Such a condition often follows abnormally rapid growth where there is a too free feeding of meat or softening food, such as millet. It takes firmness in the constitution of a fowl to grow the gristle that will hold up an ideal comb. This cockerel showed exceedingly high-class breeding, but the whole expression in the bird's head reveals his lack of that firmness so much desired in the ideal show specimen.

DEFECTS OF THE HEAD AND ITS ADJUNCTS

We will now consider the defects that disqualify specimens that sometimes are otherwise very good or that cause these birds to suffer defeat in the show room. If what should be the crowning beauty of a fine show bird is very irregular or extremely unsightly, it is pretty sure to disfigure the specimen in the eyes of many critics in the



GROUP 1.—Heads of five prize-winning males. For description see accompanying article in which Mr. Sewell points out which parts are faulty and tells why.



GROUP 2.—Five more prize-winning males. For description see accompanying article by F. L. Sewell.

show room. The comb should by no means be the deciding consideration, yet it is such an attractive feature of a show bird's make-up that a comb that is decidedly ugly could hardly be expected not to overshadow the good points of a bird. We do not advise destroying the best birds on account of ugly combs, as we have often successfully bred from them and finally established good combs, but the repeated use of birds of old fixed breeds that persist in showing ugly defects in comb never pays, and nearly every purchasing fancier discriminates against them even if the birds are offered at very low prices.

In the accompanying sketch we have combined most of the common defects found in the single comb of the American class. In rare cases we find nearly all of these irregularities on one specimen. Few birds are shown that do not incline toward one or more of these defects. The only disqualification here illustrated is the point growing on the side of the rear blade of the comb. Judges are instructed to disqualify for this when it is found on single comb birds and no breeder of Plymouth Rocks will tolerate this defect. "Positive white" color in the ear-lobes also disqualifies the Plymouth Rock from competition at shows. The deep wrinkles or twists called "thumb marks" in the front part of the comb above the nostrils are quite as bad as the sprig when found in such degree as here represented. Above these "thumb marks" along the edge of the blade (3-A, Fig. 1) are several little knob-like points, very undesirable irregularities, that spoil the nice sweep so much desired from the beak up to the first regular point. The bad bends just above the beak are caused by the wrinkles or "thumb marks."

Above the eye is a "double point", the latter of these two points being knob-like at the tip. This form of tip sometimes becomes a common defect in strains if not weeded out. Nicely tapered tips on the points of all single combs give the desired finish. The last two largest points appear overgrown, too soft in substance and lop at the ends. The entire backward edge of the rear blade (3-C, Fig. 1) looks as if it had gone to sprout with sprigs and irregular little knobs.

Sometimes even worse, more irregular and uglier combs than this are seen. This one is all too coarse in texture and far beyond the limit of imperfection that one could permit on a breeder or exhibition bird. The wattles here add to the general appearance of coarseness. Where the wattles attach to the beak and back corner of the mouth, there is a coarse, puckered expression and they droop awkwardly over the throat in a dried leathery fashion; and the wrinkled lobes are by no means ear marks of breeding, but only of the neglected mongrel. About the eye, wrinkles add to the coarseness, and the weakness of the beak is by no means in harmony with a fairly decent shape of head. On the whole, the points of fineness, regularity and strength that belong to the Plymouth Rock type are certainly lacking in this head. Such an ugly head would mark even a well-bred cockerel (though it is hardly possible for a well-bred cockerel to appear like this) as only fit for a roast.

PORTRAITS OF FAMOUS WINNERS

We are reproducing in five groups portraits of twenty-eight famous show birds—well-known Plymouth Rocks at our leading American shows. Most of them have won first prizes at New York, Boston and Chicago, and have been sold or valued at big sums of money by their owners. Like the leaves of the forest, it will be recognized that no two combs are "exactly alike," yet all affect a recognized type and were bred toward a certain ideal.

A studious comparison of these heads will reveal how even the best individuals of the breed vary when compared with each other and with the ideal of which Fig. No. 1 can be taken as a fair composite representation and interpretation of the Standard description.

No. 1—In Group 1: A portrait of a Chicago first prize cockerel with finely formed head, set well on a nicely tapering neck. Comb is straight, of neat size, and smooth texture with fine, regular points. Rear blade extends a trifle high from the head and has one faulty serration. Wattles are well formed and regular. Ear-lobes are a trifle large for a cockerel and somewhat wrinkled.



GROUP 3.—Six prize-winning and exhibition quality Plymouth Rock female heads—Barred and White. For description see article.



GROUP 4.—Two White, three Buff and one Barred Rock female heads. For description see article.

No. 2—A first prize Boston cockerel. The head is that of a vigorous, powerful bird. Comb and wattles are a little coarse. Plumage under the throat rather straight downward. Head and neck join well at back of head. Front and back of comb are not in nice harmony in outline. Wattles are too angular and not nicely rounded in front.

No. 3—A Chicago winner with rather a coarse head. There are only four points on the comb and they do not taper nicely—probably had been frost-bitten and the wattles no doubt were also affected by frost. Rear blade is too broad. Texture of the comb and wattles is rather good. Eye well set and intelligent in appearance. Beak strong, head well formed, but skull and face rather large.

No. 4—A New York first prize exhibition pen cockerel from an old strain of habitual prize winners. Head is finely proportioned and eye noble. Face well shaped and beak strong and his head is set perfectly on the neck. Size of comb, wattles and ear-lobes is in nice harmony with size of head. Comb is straight, but trifle rough in texture. The five points are regular, but top of "leader" rounds downward in an awkward form. Wattles match in length and are quite well rounded.

No. 5—A first Boston cockerel of about ten years ago. He was the principal model in type of body for the Plymouth Rock Club ideal. Head is of good shape; eyes fine, beak nicely formed. Comb is too large and especially is too long in points, which are six in number with the rear blade turned downward. The wattles being small, make the comb appear larger than it would if the wattles were in better proportion to the size of head and comb. This is rather an uncommon fault.

GROUP 2: BARRED AND BUFF ROCK MALES

No. 6—The first portrait in the second group is that of a first prize Chicago cockerel, which was sold for a big price (I was informed \$100.00), and made a great record at a later important show. This is a fine-looking cockerel head with strong character in the eye and finely formed face. The comb is somewhat disfigured by a wrinkle above the nostrils and the points are not well divided in the front, but, on the whole, the head is attractive.

No. 7—A first prize Boston cock—another famous old fellow that tempted a sale at \$100.00. His blood is in one of the best eastern pullet-breeding strains. The first fault that appears in the comb is the double point in front. None of the points seems connected just right with the main part of the comb—the serrations look too broad at the base of the points. Wattles are a little too long and somewhat straight in front and are also a little too coarse where they join the lower mandible.

No. 8—A sensational first prize Buff Plymouth Rock cock at Boston that sold for \$300.00 and was the chief model for the last Standard ideal for Buff Plymouth Rocks. It is a very fine head with finely formed face and spirited eye. The head is beautifully joined to the neck. The first two points are not deep enough and the last three are rather long. Rear blade is somewhat low. Wattles and ear-lobes are thin and neatly joined to beak and face. Head is elegantly joined to the neck and always poised in fine style.

No. 9—A New York pen winning cockerel from whose portrait was made the pen sketch of the third subject in the group of three male heads in Plate II., which has already been described.

No. 10—A first prize Buff cockerel at Chicago. It takes an otherwise good bird to win with such an unattractive comb. It lacks firmness in front and the overdeveloped points above the head twist over to one side. Wattles are about the right size, but not nicely curved or regular at the edges. The poise of the head in this picture does not look particularly pleasing, nor does it show the juncture of the head and neck to advantage.

Male Plymouth Rock heads should have combs that are of sufficient size to give plenty of gay color. The comb must be straight from front to back and set firmly and it must be regular in its serrations. It should be fine in texture, but not so smooth as to appear shorn of its naturally grained surface. It should be neat in appearance, but not so small in proportion to the head as to indicate a weakling. Strong Plymouth Rocks, as a rule, have fair sized combs with as fine finish as a degree of ruggedness allows.



GROUP 5.—Heads of six prize-winning Barred Rock females. For description see article.

GROUP 3: THE FEMALE PLYMOUTH ROCK HEAD

In the exhibition Plymouth Rock female, the character and form of its head, eyes, beak, face, comb, wattles and ear-lobes, should show the qualities that can be expected to produce perfect characteristics in the male. Her head should match his, though displaying its feminine qualities.

The female head points are always small and the comb and wattles of fine fowls are developed in a considerably less degree. Only a Plymouth Rock female of abnormal organs would develop a very large comb. One occasionally sees these monstrosities and not infrequently discovers that this particular bird has developed with her other abnormal qualities—an ambition to crow. At once the suspicion arises that this individual has forsaken her duty to the egg basket and is as useless as the pullet or hen with a shrunken, colorless comb.

The females that in laying season show bright, crimson-red combs, of medium size for the breed, are those most dependable as breeders. This is also a reason for their value as show birds, for the show bird should possess the practical virtues as well as beauty of form and feather.

In group 3 there are several rare representatives of the breed. No. 11 is a winner of special for best shaped female at Madison Square Garden. She is a large, splendidly developed hen, well filled in every section and well illustrating the Plymouth Rock type. She was vigorous and stocky. It is a pleasure to study a good head on so nearly an ideal bird. The five-pointed comb on this head would be a trifle larger during the laying season. It sits straight on a typical Plymouth Rock head of clear cut character and expression. The eye is well placed; beak well formed; ear-lobes and wattles fit for a model; throat is clean cut and full enough but not excessively developed, and the head is joined nicely to the neck.

No. 12—A first prize White Rock pullet at New York several seasons ago. This is another fine head of a nearly ideal female that was a rather long backed pullet when the Whites were setting the fashion of longer backs and bodies. This head is well proportioned with straight, well-balanced, five-pointed comb. It is nearer ideal in the front than the first hen, whose comb was not quite at "full bloom." The beak and eye are fine; face of good depth; wattles just about right in size and join precisely, being free from wrinkles and elegantly rounded on front and under sides. Ear-lobes are very tidy and neatly shaped. The slight, close-fitting plumage of the face is neat. Throat and juncture of head with neck are fine in outline. It is a noble looking female head.

No. 13—This head does not compare well in expression and type with the preceding. The brow is straight and not so gracefully arched over the eye. The comb looks a bit small for the size of the wattles. However, this head is above the average. The pose is somewhat unfortunate, being not so clear cut from the throat downward. The general shape of the head is good and the different sections when studied separately look pretty good, but when combined do not make a harmoniously formed head. The face is somewhat bare of plumage.

No. 14—Head of a fine, large pullet just coming into maturity. It is finely proportioned, but looks a trifle angular, partly on account of the plumage being not quite fully developed. Comb and wattles are nice in shape; the eye is well placed; beak strong and well shaped; plumage of face and throat slightly excessive and covers ear-lobes too much, giving a fuzzy appearance.

No. 15—Winner of first in her class and special for best bird in the show. This is one of the finest modeled heads we have ever seen, though the comb is just a trifle too large with six, instead of five, well-shaped points. We might desire the skull to be a trifle longer in proportion to its depth to be considered ideal on the fashionable Plymouth Rock body of the hour. It is a noble looking head

and one that few would criticize in shape for a hen that was in the height of the laying season, as she was. Wattles are nicely formed and filled; ear-lobes shop plenty large and are not so perfectly shaped as to No. 11; the head joins the neck well all around and the general pose of the head is "queenly."

No. 16—The head of a famous hen, twice winner of color special at Madison Square Garden and the mother of a strain that commands top figures. Her sturdy sons and daughters are always in demand. No feature about this head suggests any but the Plymouth Rock type. There is strength in every line, each portion being filled out, yet leaving nothing to waste. A daughter of the line producing this hen was chief model for the shape of the Barred Rock female in the last Standard. The skull is broad and the head fits strongly on the neck. The beak is firmly joined and the throat is just sufficiently full. Plumage of head and throat close; comb straight from front to back, a little low in front; wattles a little less than medium; lobes of correct size, fitting close. Each section expresses vigor, longevity and usefulness.

GROUP 4: SIX FEMALE PLYMOUTH ROCK HEADS

No. 17—The head of a somewhat loosely put together Buff Rock. The head is a trifle coarse; plumage a little full. The fluff of this bird was excessively developed. The comb is too high and the points—eight in number—are considerably overgrown. The fourth and fifth points are inclined to start from the base as double. The face is coarse and fat; the wattles rather large, like the comb.

No. 18—This is a well-formed head of a White Rock pullet that was first at Boston. The comb has but four irregular points, the main part of the comb being not very firm and the rear blade too long from the fourth point. The plumage at the throat and next to the juncture of the head is somewhat coarse.

No. 19—This Buff hen did not have a very pretty head. It looks short, coarse and unintelligent. The wattles are pinched. The points of the comb are crowded together. The throat hangs loosely with hairy plumage. It is not a well-modeled head for a Plymouth Rock. The expression is more like that of an inferior Asiatic.

No. 20—The very broad head of a splendid White Plymouth Rock hen. Today perhaps more apparent length in proportion to the breadth might be desired. However, fullness should not be considered as detracting from the real length if the plumage is firm on the surface. The comb is not perfectly straight in front, being sunken where the first point should be and the rear blade looks a trifle thick and larger than desired. Altogether, it is a head that indicates a bird of genuine value for show or breeding purposes.

No. 21—This Buff hen entered in the Plymouth Rock class at New York was criticized by experts who said her head points showed too much of the Wyandotte form. The head was rounded and short with low skull and face; short beak; very small comb, wattles and ear-lobes. She had the full Wyandotte throat, also the rounded line over the head and juncture of neck. Plainly their criticisms were well founded, although it is possible, too, that the bird's blood might not have touched the lines producing Wyandottes for many generations.

No. 22—This hen as a pullet possessed a very nicely formed comb. Even at the time of taking this photograph, when the hen was four or five years old, the comb was firm and straight, but had grown irregular, and being considerably larger than when she was a first winning pullet at New York, it was not any longer a show comb. It illustrates changes of age and the care that should be exercised to preserve the fineness of the points of the comb.

GROUP 5: PRIZE-WINNING BARRED ROCK FEMALES.

No. 23—A very large sized old hen, winner of first at World's Fair, St. Louis. The head could not be mistaken

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for any but that of a large, powerful bird. The skull is very large and joins the neck in a thick manner. The eyes, comb and wattles are small for the size of the head, though the throat is full and the broad base of the beak is powerful. The rear blade of the comb is too thick and extended for a Plymouth Rock. Where vigor and size were much needed, such characteristics would be valuable. This hen was probably two pounds heavier than No. 11, the large hen first illustrated. However, the comparison of types will reveal the divergence of the Plymouth Rock ideals of fanciers.

No. 24—Another unusually large Barred Rock winner, in first pen at New York. She was the dam of wonderful cockerels at the same show. This hen equaled the preceding one in size, but showed more refined breeding and the head was better proportioned. It is difficult to find such large hens that represent well the ideal of the American class, as they incline toward Asiatic coarseness of features.

No. 25—This was the finest, very large Plymouth Rock hen we have ever seen. She was from the same strain as No. 24 and nearly as heavy. She was twice in the first prize cockerel breeding pen in New York and was a long bodied bird of modern fashion and her head was well in keeping, showing none of that excessive dewlap under

the throat, so common in hens of her size. She was "a great big good one," that expressed truly the Rock type of head. The comb is a little low in front. Wattles were rather narrow at upper part when photographed, but I should expect to see them more curved when she was laying.

No. 26—A young pullet head belonging to another first prize pen bird at New York of another strain. This head appears undeveloped; is small in comb and wattles and the ear-lobes hardly show, but are of good form for a bird six months old. She is of a strain that usually does not develop over large combs and wattles.

No. 27—A hen of the same strain as pullet No. 26, and first hen at New York. Her head is small and the comb, wattles and ear-lobes are small for a fully developed hen. The plumage of this bird was very close about the head and body and the throat was close cut under.

No. 28.—This last illustration of the series is like the two immediately preceding it, although it is younger appearing than pullet No. 26. The entire appearance is softer—not so firm in flesh or plumage. The ear-lobes are fine in size, while comb and wattles appear quite undeveloped. The head is small and the eye is full. She is a type that we would not expect to develop into a large size, but the head shows neat characteristics.

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